– MIDDLE EAST @ WAR No.11 –

HOT SKIES OVER YEMEN

VOLUME 1: AERIAL WARFARE OVER THE SOUTHERN ARABIAN PENINSULA, 1962-1994

Tom Cooper

MIDDLE EAST @ WAR SERIES

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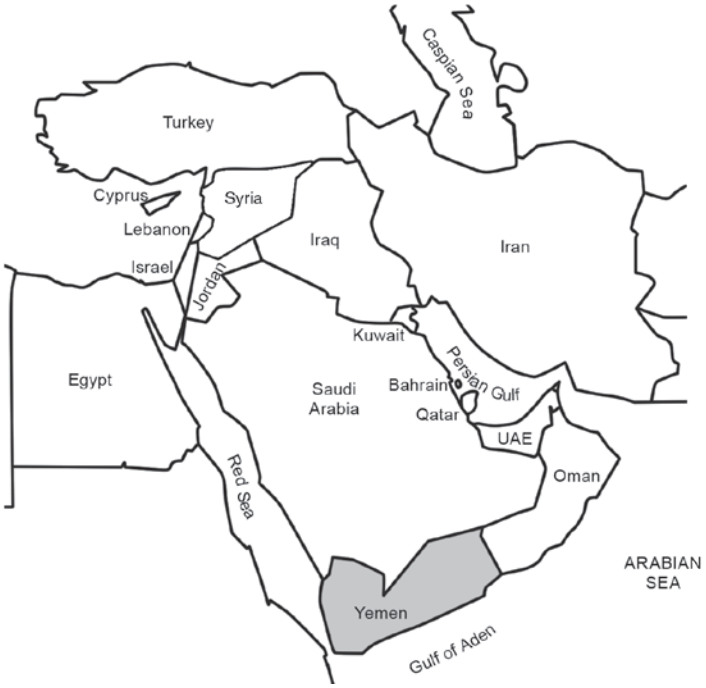

Note

In order to simplify the use of this book, all names, locations and geographic designations are as provided in *The Times World Atlas*, or other traditionally accepted major sources of reference, as of the time of the events described. Arabic names are romanised and transcripted rather than transliterated. For example: the definite article al- before words starting with 'sun letters' is given as pronounced instead of simply as al- (which is the usual practice for non-Arabic speakers in most English-language literature and media). Similarly, the names of Taiwanese officers are romanised and transcripted in 'Tongyong Pinyin', Taiwan's own Romanization system for Mandarin Chinese. For reasons of simplicity, genuine designations for Soviet/Russian-made weapons used in this book are mentioned once, and then their ASCC (or 'NATO') codes are used instead.

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ABBREVIATIONS

AAA	anti-aircraft artillery
AB	air base
APL	Aden Protectorate Levies
BAC	British Aircraft Corporation (later BAe/BAE)
CAS	close air support
CASEVAC	casualty evacuation
C-in-C	commander in chief
CO	commanding officer
COIN	counter-insurgency
CSF	Central Security Force (para-military force responsible for riot control and the protection of foreign embassies and officials since 1980s)
DHC	de Havilland Canada
FLOSY	Front for the Liberation of Occupied South Yemen
FSA	Federation of Southern Arabia
Il	Ilyushin (the design bureau led by Sergey Vladimirovich Ilyushin, also known as OKB-39)
IIAF	Imperial Iranian Air Force
IrAF	Iraqi Air Force
MANPADs	Man-portable air defence systems
MiG	Mikoyan i Gurevich (the design bureau led by Artyom Ivanovich Mikoyan and Mikhail Iosifovich Gurevich, also known as OKB-155 or MMZ 'Zenit')
MRLS	multiple rocket launch system
NDF	National Democratic Front
NLF	National Liberation Front
NOGIMS	National Organisation for General Intelligence and Military Security
NSO	National Security Organisation (top intelligence and security agency in Yemen since 1980s)
NUF	National Unity Front
OLOS	Organisation for the Liberation of the Occupied South
PDRY	People's Democratic Republic of Yemen (South Yemen)
PDRYAF	People's Democratic Republic of Yemen Air Force (South Yemen, 1967-1994)
PFLOAG	Popular Front for the Liberation of the Occupied Arabian Gulf (also 'Adoo')
PFLP	Popular Front for the Liberation of Palestine
PRY	People's Republic of Yemen (South Yemen, 1967-1969)
PRYAF	People's Republic of Yemen Air Force (1967-1969)
RAF	Royal Air Force (of the United Kingdom)
RSAF	Royal Saudi Air Force
SAAF	South Arabia Air Force
SAS	Special Air Service
SAM	surface-to-air missile
Su	Sukhoi (the design bureau led by Pavel Ossipovich Sukhoi, also known as OKB-51)
TELs	transporter-erector-launchers
TFS	Tactical Fighter Squadron
UAE	United Arab Emirates
UAR	United Arab Republic (Union of Egypt and Syria, 1959-1961)
UARAF	United Arab Republic Air Force (official EAF title from 1958-1972)
UNF	United National Front
USAF	United States Air Force
USSR	Union of Soviet Socialist Republics (also 'Soviet Union')
YAF	Yemen Air Force (since 1994)
YAR	Yemen Arab Republic
YARAF	Yemen Arab Republic Air Force (North Yemen, 1967-1994)
YSP	Yemen Socialist Party

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GEO-POLITICAL BACKGROUNDS

The Republic of Yemen of today, the second largest country on the Arabian Peninsula, is as unstable and as dangerous as ever before. The country has been in a state of near-permanent political turmoil since at least 1962, and almost permanently at war since at least 2004. Nevertheless, news from Yemen rarely catches public attention: if at all, then only because of latest developments. For instance, in 2011 a political crisis erupted, including mass protests against poverty, unemployment, corruption and lack of prospects. The crisis resulted in the president stepping down and being replaced. The subsequent transitional process was completely disrupted by a myriad of inter-ethnic and political conflicts, insurgencies and then – in 2015 – an all-out war, which culminated in a military intervention led by neighbouring Saudi Arabia that is still going on today.

Although most recent conflicts in Yemen saw often intensive involvement of foreign powers, local military affairs often remain well hidden from the public, and thus very little was published on different military campaigns – and especially aerial warfare – in this country. Meanwhile, there are more (and highly authoritative) publications about the early history of flying in this part of the Arabian Peninsula, than about the same topic from the last few decades. On the contrary, except for a few articles in the local and specialized press in the West, next to nothing has been published about the Yemeni Air Force.

The following account is a result of a decades-long process of collecting information on military-related aerial operations over this part of the world. After busying myself with this topic just occasionally and at enthusiast level, I began monitoring developments in Yemen more closely in 2009, and then on a near-constant basis since 2015. This proved anything but easy: not only was establishing and maintaining contacts to local sources hampered by extremely stringent security measures and a brutal and ongoing war, but also by frequent failures of electricity and the internet.

This account is based on cross-examination of a wide selection of usually little-known publications that did become available, a handful of official documents released over time and several first-hand sources. Clearly, many of these were rather ambiguous by nature, often misleading, at least requiring some 'reading of entrails' and the drawing of deductions from what they did not say. However, a careful cross-examination of all the different sources enabled a fairly accurate picture of not only the military build-up, but also the conduct, timing and results of various military campaigns.

While deciding to keep the emerging narrative as free as possible from every-day politics and relations between different personalities, political parties, local and foreign business interests and thousands of different tribes and clans in Yemen – all of which are factors strongly influencing everyday life in that country – from time to time there was a necessity to discuss such issues. This is likely to result in a kind of story that many Yemenis, or those foreigners with far better insights of the country than mine, might find has failed to mention certain crucial developments, figures or relations between the same. Some Yemenis might even consider this offensive. They all have my apology for this, for I have to admit that even after all the studies of their beautiful country and lovely people, I failed to find out about many of these nuances. In my defence, I can only admit that the result of my work is incomplete: this is so because this volume concentrates on affairs related to military flying, and as such is certainly insufficient to properly describe the country and its proud people.

For similar reasons, I hope that readers in the West may understand my decision to keep the coverage of operations of well-known and widely published services – like the Royal Air Force (RAF) – to an absolute minimum. The primary purpose of this project is the study of local air forces, their people, the history of their operations and their experiences. After all, one should keep in mind that while there is an entire myriad of publications about various Western services, there is not a single book known detailing the build-up and operational history of any air forces in Yemen.

GEOGRAPHY AND POPULATION

The Republic of Yemen is situated in the south-western corner of the Arabian Peninsula. Clockwise, it borders Saudi Arabia in the north, Oman in the east, the Arabian Sea and Gulf of Aden in the south and south-west, and the Red Sea in the west.

Geographically, Yemen is split into four principal regions: the coastal plains in the west, the western highlands, the eastern highlands and the Rub al-Khali Desert in the east. The flat coastal plain is arid, but characterised by many lagoons. There are extensive groundwater reserves and many streams coming down from the western highlands. The latter area receives the highest rainfall on all of the Arabian Peninsula, and is nowadays heavily terraced to meet the demand for food. Weather is generally hot during the day, with temperatures declining dramatically at night. The central highlands are an extensive, high plateau over 2,000 metres (6,562ft) in elevation. While receiving a lot less rain than the west, it is intensively cultivated in many of its valleys. Indeed, water storage enables irrigation and the intensive cultivation of wheat and barley. The Rub al-Khali Desert is much lower, generally below 1,000 metres (3,281ft), but receiving next to no rain. It is sparsely populated by a few Bedouin herders of camels.

The home of the biblical Sheba people (Sabaens), the area nowadays within the borders of the Republic of Yemen flourished over 1,000 years and probably included parts of modern-day Eritrea and Ethiopia before coming under the rule of the Himyarite Kingdom. Judaism and local paganism were well-established before Christianity arrived, in the 4th century, while Islam spread quickly in the 7th century and Yemenites were highly influential in the early Islamic expansion. Administration of the country characterised by very rugged terrain proved notoriously difficult, and several dynasties emerged over the following 1,000 years. Furthermore, during the medieval age, Arab Bedouin tribes of Yemeni origin migrated westwards, via North Africa, all the way to Mauritania. Some of their descendants can nowadays be found in Morocco and Algeria.

Ottomans conquered parts of Yemen in 1538 when the country was in a state of anarchy: nominally, Imam – priest-king – al-Mutawakkil Yahya Sharaf ad-Din ruled over the northern highlands, including Sana'a, while Aden was held by the last Tahiride Sultan, Amir Ibn Dauod. Aiming to safeguard the holy cities of Mecca and Medina, and the trade route with India, from the Portuguese, the Ottomans stormed Aden, killed its ruler and established themselves in power. However, their repeated attempts to conquer the highlands resulted in one catastrophe after another. Indeed, in 1632, a Yemenite force of about 1,000, led al-Mu'ayyad Muhammad, conquered Mecca in triumph and killed the Ottoman governor, before being forced to withdraw by a massive military intervention launched out of Egypt. Al-Mu'ayyad survived this campaign and withdrew into the highlands. His successor, al-Mutwakkil Ismail,

ADEN, Arabiæ faelicis emporium celeberrimi nominis, quo
ex India, Æthiopia, et Perside negotiatores conuenuntur: vbi
est magnifica, situ et structura bene munita, ædificiorum nite-
re atque frequentia celebris, muro et præcelsis supra montibus,
in quorum summitatibus ardentes faces nauigantibus portum
ostendunt. Peninsulæ formam quondam obtinuit, nunc autem
hominum industria, vndique aquis ambitur

Portuguese fleet in Aden, in 1590. (Braun & Hogenberg)

Typical landscape of northern Yemen. (Wikiwand)

then conquered all of Yemen from Asir in the north to Dhofar in the east, and created the strongest Zaidi state ever. During that period, Yemen was the sole coffee producer in the world, and maintained diplomatic relations with the Ottomans, Persia, India and Ethiopia.

The Yemeni monopoly on coffee was broken by Europeans in the first half of the 18th century, and as the Imamate failed to develop a cohesive mechanism for succession, the country nearly disintegrated just around the time the British Empire appeared on the horizon. Exploiting a minor incident, the British occupied the port of Aden in 1839 and then concluded 'protection and friendship' treaties with nine tribes in that part of the country. In 1837, Aden was declared a Crown Colony. Although a rather unpleasant environment, it became a very important base because of its location along the route to India. During the following decade, it was developed into a military base and a coaling point, and in 1850 declared a free trade zone. Emigrants from India, East Africa and south-west Asia turned it into a 'world city': indeed, only a few hundred locals remained, although the Arab part of the population partially recovered through an influx of Zaidi people from Hejaz and Ta'izz. In turn, many Yemenis of Hadrami origin emigrated to Indonesia, Malaysia and Singapore.

The British presence in Aden was a major concern for the Ottomans. Furthermore, anarchy in Sana'a was meanwhile reaching such proportions that local traders requested help in pacifying the country. However, another Ottoman advance on Sana'a ended in a defeat in 1849: indeed, were it not for the opening of the Suez Canal in 1869, Istanbul might have decided to abandon the country again. Instead, in 1873, the Ottomans launched another intervention and this time conquered the northern highlands, including Sana'a. The peace imposed by the invaders did not last for long. Not only did the local tribal chiefs prove difficult to appease, but the revolts of 1904, 1911 and 1916-1918 caused heavy casualties and massive material

A typical meeting between local military commanders and tribal leaders, as was usual in Yemen until modern times. (National Yemen)

damage. Unsurprisingly, Istanbul was happy to sign a treaty with Imam Yahya in 1911, recognizing him as an autonomous leader of the Zaidi northern highlands. In 1919, the Ottomans withdrew from Yemen and a Mutawakkilite Kingdom (or the 'Imamate of Yemen') was established in the north, while the south remained under the British control as the Aden Protectorate.

The British used their protectorate and its airfield at Sheikh Othman as a base from which they controlled much of the Indian Ocean and the southern approaches to the Suez Canal. Their control of the countryside surrounding Aden was bolstered by the deployment of No. 8 Squadron, RAF, in 1927, but remained weak until 1945, due to rugged terrain. To secure the safety of the port and surrounding territory, Britain signed additional treaties with local sheikhs, but also used military force. However, it was only after a new airfield – RAF Khormaksar – was built in 1945 that the British began spreading their influence deeper into the Arabian Peninsula.

RELIGION AND TRIBES

As of that time, the population of Yemen was estimated at between 4.2 and 5 million, with most ethnic groups being Arab, but also some Afro-Arabs, South Asians and Europeans. Yemenite Jews, who once formed a significant minority with a distinct culture, had mostly emigrated to Israel in the 1950s, leaving behind a society that became dominated by two Islamic groups: the Sunni and Shi'a. According to the UN, about 53 percent of the population are Sunni (Shafi) and about 45 percent Shi'a (principally Zaidi, but with significant minorities of Twelvers and Ismailis). The orthodox Shafi constituted about a third of the population in northern Yemen, and most of the population in southern Yemen. The Zaidis, adherents of a Shi'a sect, dominated – and still dominate – the central and northern highlands, with Sa'ada as their centre, and extend to the north where they straddle the frontier with Saudi Arabia. Ismaili Shi'a communities are found in the Haraz region west of Sana'a and among the Yam tribes in the border area near Najran. Although Zaidis and Shafis are conservative in religious issues, until only a few years ago neither community displayed the zealotry of modern-day Iranian Shiism or the dour puritanism of the Wahhabis of Saudi Arabia. Indeed, for most Yemenis, there was very little distinction between the two sects, and it was neither uncommon to intermarry nor to worship in each other's mosques. However, there was – and remains – a bitter division between the two communities on the political and economic front. The more sophisticated and better-educated Shafis have always resented their political domination by the more warlike Zaidis. Precisely this issue has contributed, and continues to contribute, to the chronic political instability of this part of the world.

Another issue is that of tribalism. Yemeni society was and remains largely tribal: tribalism still permeates all facets of life today. However, tribalism is not the only lens through which one should examine Yemeni social networks: it is just one of the important factors, including individual predilections, family ties, religion, geography and a host of other issues. Furthermore, tribalism in Yemen has been weakened over time by modernisation and urbanisation. The sheikhly class in the south has been all but destroyed over the last 50 years, and lost most of its power in Shafi areas of the north too. Similarly, the two main confederations of the Zaidi tribes in the north – the tightly organised Hashd and less coherent Bakil – were undermined by different outside factors over the last 30 years and have lost much of their influence.[1]

MILITARY BACKGROUNDS

The origins of the modern-day Yemeni military can be traced back to the late 19th century, when Turks began recruiting tribal levies to create four battalions of gendarmerie and three cavalry regiments. In 1906, the Italians recruited thousands of Yemenis and gave them military training in their colony of Somalia before sending them to Libya to fight the Senussi insurgency of 1911. Aware of the gains made by the Hashemites in the course of the Arab Revolt, a

combination of these forces – all of which held strong ties to various local tribes – rebelled against the Ottoman rule in Yemen during the First World War. Although nowhere near as famous as the uprising involving Thomas E. Lawrence – 'Lawrence of Arabia' – the Yemen revolt led to the withdrawal of the Turkish military.

While officially declaring independence from the Ottoman Empire in October 1918, Yemen was internationally recognised only in 1926. By that time, Imam Yahya kept a cadre of 300 Ottoman officers and soldiers to train his army, which – while remaining an outgrowth of the tribal levies that functioned as little more than a palace guard – was officially organised as follows:

> Special Imamate Guard: nominally a 5,000-strong unit of specially selected combatants named 'Ukfa', considered absolutely loyal to the monarch;
>
> The Outback Army: this up to 50,000-strong force consisted of Zaidi tribesmen – infantry and cavalry – that served for one or two years, but brought their own rifles and provisions;
>
> The al-Army: established in 1919, this consisted of several groups of tribal levies. Each tribe included a retainer who reported on the behaviour, awards and misdeeds of members of his tribe; if a member of the tribal levy stole, or left without permission, the retainer and tribal chief compensated the Imam for the loss;
>
> The Defensive Army: established in 1936, this was a draft of all able-bodied men – including urban Yemenis – capable of bearing arms and given six months of military training. With all members of the Defensive Army receiving periodic training for 10 years after their draft, this became a form of a reserve army.[2]

During the early 1920s, an ammunition factory was constructed in Sana'a by a Yugoslavian (or German) and an Australian. Imam Yahya became interested in acquiring his own aircraft after the Yemenite forces were bombed by the RAF flight based at Sheikh Othman in January 1922. In the course of that conflict, Yemenis apparently captured a damaged RAF aircraft and attempted to repair it, but lacked suitable gasoline and personnel qualified to make it airworthy again.[3]

Another campaign of clashes with British forces followed in July-October 1925, during which the RAF at Aden flew strafing and bombing sorties on towns along the Red Sea coast. Such experiences prompted Imam Yahya to seek support from Italy and launch a tentative attempt to form his own air force.

On 6 January 1926, an Italian named Pastori was contracted to deliver six aircraft. The first three of these arrived in April of the same year, but all were found to be old and worn out. Following Imam's complaints, the Italian administration of Eritrea agreed to provide better aircraft, and in August 1926, one unknown machine was presented to Yemen. Furthermore, Rome furnished six tanks, 2,000 rifles, four anti-aircraft artillery (AAA) pieces and some communications gear to Sana'a, while Iraq provided additional rifles and communications equipment.[4] With help from an Italian team of pilots and support personnel, a flight school was established in May 1927, while a team of 12 young Yemenites was sent to the Breda Flight School in Milan for training. Ten of the latter were accepted on 7 June 1927, and – despite all sorts of difficulties and a complete lack of mechanical knowledge – received their flight certificates in August the following year.[5]

Meanwhile, in July 1927, a Junkers A.35 two-seater and a F.13 six-seat transport were acquired via an Egyptian businessman named Hassan Anis Pasha and his Arabia Trading Company. The aircraft arrived crated at Hodeida on 17 August, accompanied by two German pilots. Because there were no cranes or docks in Hodeida at the time, the large crates – weighing up to 4,500kg (9,920lb) – with the aircraft and their engines had to be manually lifted from the ship and unloaded by several hundred labourers. Following their assembly and demonstration to the Imam, the aircraft were formally handed over, and the Germans subsequently started work on erecting a small workshop at Sana'a and training Yemenite ground personnel. However, tragedy struck when the A.35 entered a spin and crashed, killing all three on board, including two Germans and one of their Yemeni students, on 3 October 1927. After receiving their payment for the two aircraft, the surviving Germans left the country, leaving behind only a team of 10-15 Italians, nine days later.[6]

A new German pilot arrived in Hodeida in January 1928 and was contracted to continue training Yemenite personnel. His work was not only marred by language differences, and the complete passivity of the Italian team, but by further clashes between Imamate forces and the British in April and May of the same year. The fighting saw the RAF indiscriminately bombing several coastal towns. While the Imamate forces claimed to have shot down seven RAF aircraft, this prompted Yemenite authorities to curtail all the flying activity. Concluding that the Italian-delivered aircraft were all "useless", and strongly opposing the involvement of his country for the purpose of foreign interests, Imam Yahya subsequently stopped his efforts to establish an air force and *de facto* banned aircraft from Yemen. This decision back-fired in 1930, when a crisis erupted between the Imamate and the family of Ibn Saud, who at the time was in the process of conquering most of the Arabian Peninsula. While officially neutral, the British sided with Saud and supported his claims, enabling him to invade and conquer Asir – a Yemeni province for thouands of years. The British also immediately forced Imam to sign a treaty deferring his claims on Asir for 20 years, and on Aden for 40 years. When the population of Asir revolted against Saudi occupation, Britain provided military assistance for brutal Saudi suppression of the uprising.[7]

For most of the following 20 years, Imam Yahya redirected his efforts towards consolidating his authority and creating a viable central government. He therefore intensified the establishment of a standing army, sent dozens of officers for training abroad – primarily to Iraq, but also in Syria and Egypt – and tightened his control over all state affairs.

SWEDISH TIMES

On 17 February 1948, Imam Yahya was assassinated in the course of a coup staged by the Alwaziri family from the Hashd tribal confederation. For the next four weeks, the Alwaziris installed their own Imam, Abdullah Ibn Ahmad al-Wazir, to run the Imamate. However, Yahya's assassination not only resulted in an outburst of outrage in the Arab world, but prompted most of the Yemeni tribes to rally behind Yahya's oldest son, Sayf-ul-Islam Ahmad Ibn Yahya Hamidaddin, and accept him as the new Imam.

While more open to foreign contact than his father, Imam Ahmad proved an ultra conservative ruler who never allowed his country a free intercourse with other nations. His rule is usually described as autocratic, pedantic and erratic, but also characterised by his deep antipathies towards Great Britain and Saudi Arabia.[8] Nevertheless, he knew to appreciate the importance of aviation. Therefore, his government almost immediately launched efforts to obtain aircraft and hire the necessary personnel. A three-engined AAC.1 transport – the French-built copy of the Junkers Ju-52/3m – was purchased from Lebanon in April 1948, and a Noorduyn UC-64A Norseman impounded in Egypt while underway to Israel was acquired from

An Aero Commander of Yemen Airlines, at Khormaksar airfield in 1958. (John Fricker Collection, via Simon Watson)

Cairo in late July. In October 1947, the Imam purchased two Douglas C-47s from Italy and hired Italian crews for them. As of that time, three 'airfields' existed in Yemen: Sana'a (also 'Sana'a South'), Hodeida and Ta'izz – which was Imam's new residence. Following disagreements between the Italians and Yemenites, a number of Swedish pilots and ground personnel were hired instead and helped establish Yemen Airlines in 1949.[9]

Initially, the company operated only the Imam's aircraft – including small numbers of Aero Commander 560s, Douglas DC-3/C-47s, Cessna Bobcatsand UC-64As – and served rather as a private than a commercial operator, transporting government officials, pilgrims, goods, mail and a few businessmen between the major cities of Yemen.

NEVER-ENDING PROBLEMS IN ADEN

The history of southern Yemen – or what was 'Southern Arabia' in the British nomenclature of the time – meanwhile began developing in its own direction. As of 1945, the area consisted of the Crown Colony of Aden and about 20 'states' – emirates, sheikhdoms and sultanates – 17 of which were in the Western Aden Protectorate and three in the Eastern Aden Protectorate. Their status and political institutions varied widely, from being dominated by unruly tribes of the wild and inhospitable interior to the sophisticated and heavily populated Aden. In 1945, the British deployed de Havilland Mosquitoes of No. 114 Squadron to RAF Khormaksar Air Base to deal with the Subeihi tribe, and a year later suppressed with force the demonstrations instigated by the Dathina tribe. Ever more in demand because of additional unrest and banditry, No. 114 Squadron was re-designated No. 8 in 1947, then re-equipped with Hawker Tempest Mk VIs.[10]

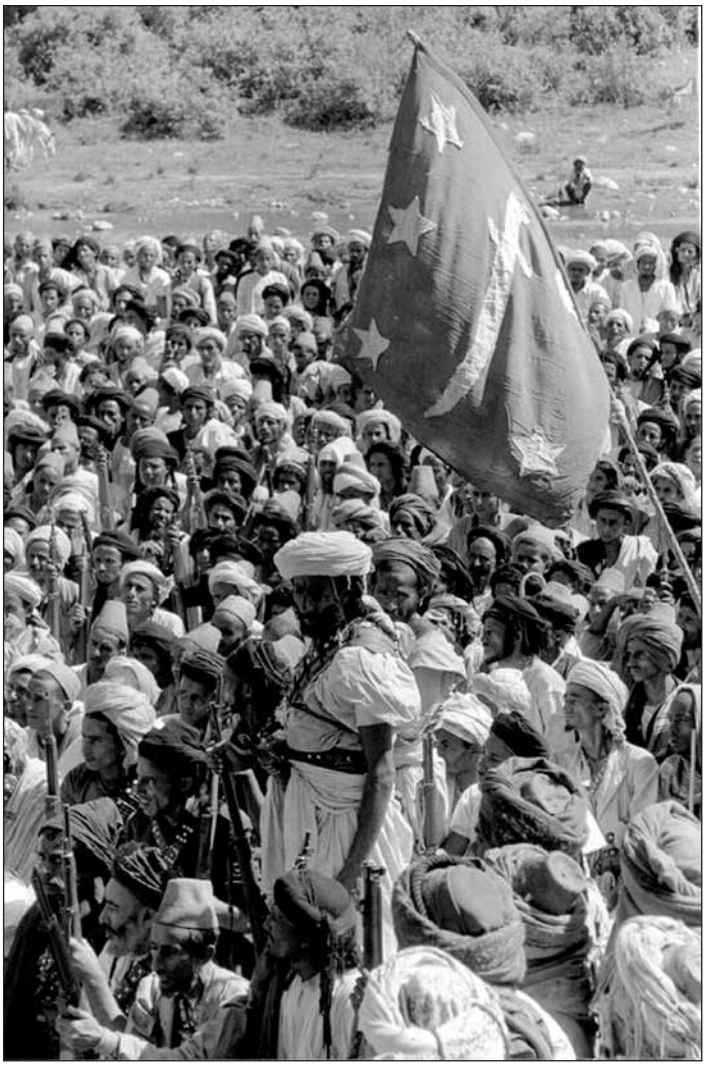
Through 1947 and the following year, the British launched additional operations against dissident tribes in the direction of Thumier, and then on Wadi Mirria, Naqd Marqad and Wadi Hatib. Meanwhile re-equipped with Bristol Brigand B.Mk 1 light bombers, No. 8 Squadron supported all of the operations with often vicious attacks on local forts. The latter proved very strongly built, and armour-piercing rockets were usually necessary to ensure their destruction. In 1953, No. 8 Squadron was re-equipped again, this time with de Havilland Vampire FB.Mk 9 fighter jets, and often reinforced by similar aircraft of the Egypt-based No. 32 Squadron, Avro Lincoln bombers from Nos 7 and 49 Squadrons, and various minor units. These aircraft were in use against the Shamsi tribe in January 1954 and during operations to relieve the besieged Am Ruseis in May of the same year.

Gradually, the British established themselves in control of the anarchistic hinterland of the Aden Protectorate, although areas such as Radfan and the Lower Yafai Sultanate remained pockets of chronic dissidence. Some of the tribes in Radfan were crossing into the Imamate of Yemen, where they were armed and served with armed forces, time and again. When their tours of duty were over, they were permitted to keep their weapons and return home. Obviously, this meant that such groups in Radfan were becoming steadily better armed over time. The British also found themselves facing ever greater resistance inside Aden, where the merchant class argued against any move that would give a large measure of political control to the backward sultanates, while the Arab nationalists were agitating against any kind of British presence itself. As the low-intensity guerrilla war spread, the RAF also began flying attack sorties on Yemen nationalist bases in the Imamate of Yemen.[11]

During the mid-1950s, additional units were established and based at RAF Khormaksar. Among them was the Aden Search and Rescue Flight equipped with Bristol Sycamore helicopters, No. 1426 Flight flying Lincolns, No. 37 Squadron equipped with four Avro Shackleton MR.Mk 2 reconnaissance-bombers and No. 78 Squadron flying Scottish Aviation Twin Pioneer light transports. Further reinforcements followed, partially in reaction to occasional attacks by tribes living in the Imamate of Yemen.[12]

UNDECLARED WAR WITH GREAT BRITAIN

Through the early 1950s, Imam Ahmad began providing arms and supplies for tribes that opposed the British rule over the Aden Protectorate. By 1954, activity concentrated to the area around Wadi Hatib, to which the British reacted by constructing a new fort at Robat. This isolated outpost quickly became the focus of tribal resistance, which was countered by RAF air strikes and frequent airlifts of troops into the combat zone. Furthermore, the RAF flew



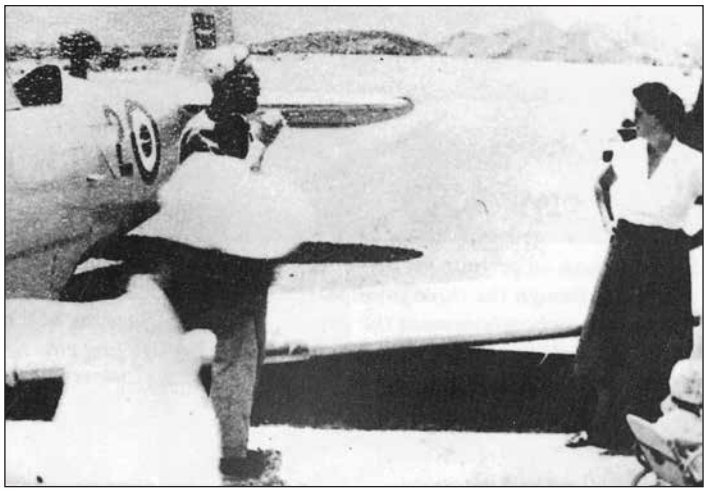
Zaidi tribesmen – the backbone of the 'army' of the Imamate of Yemen since the 1920s – gathering around the national flag in the early 1950s. (Albert Grandolini Collection)

regular combat air patrols along the border in an attempt to interdict the flow of supplies from Yemen.

In 1954, the Imamate of Yemen also established military cooperation with Egypt, and Cairo donated a total of four cannons, six heavy machine guns, 12 light machine guns and 20 rifles to Sana'a, deploying four Egyptian Army officers to serve as instructors.[13]

While the activity of Yemeni-supported insurgents inside the Aden Protectorate declined by the end of the year, hostilities renewed in the spring of 1955, despite ever more intensive operations by the RAF and deployment of British troops as well as the Aden Protectorate Levies. Realising that Fort Robat had become a liability, the British decided to abandon it. In return, the RAF stepped up its patrolling and began deploying field intelligence officers in an attempt to help direct air strikes against insurgents. Because the border proved too long to block with available forces, London eventually decided to engage Imam's forces inside Yemen, and thus divert his attention towards his own security.

Feeling under threat from the British, Imam Ahmad entered negotiations with Egypt, Syria and Saudi Arabia, in a bid to establish a possible military pact. This resulted in a temporary warming of relations with Riyadh: the Saudi government not only decreed that Yemenis could enter without working permits, but, in March of that year, also donated two North American T-6A Texans, which were flown by a few contracted US pilots. Six Yemeni students sent to Italy for flying training in 1956 proved unsuitable for the job.[14]



The only known photograph of one of two T-6A Texans used by the air force of the Imamate of Yemen, as seen after a 'belly landing' in 1957. (David Nicolle Collection)

YEMEN'S 'CZECH ARMS DEAL'

In April 1955, Imam Ahmad signed a mutual defence pact with Egypt, including a unified military command. Although of rather symbolic nature, and merely resulting in some Yemeni officers receiving military training in Egypt, this alliance was to prove crucial for the coming into being of the first major arms deal involving the Imamate of Yemen. As documents recently found in the National Archive of the Czech Republic and the Military Historical Archive in Prague have shown, by that time the government of the Imamate was already in touch with Soviet representatives. Curious not to upset Western powers, after reaching an initial agreement with the Yemenis, Moscow ordered the Czechoslovak government into action along similar lines to those that resulted in the famous 'Czech Arms Deal' with Egypt: a contract in which Egyptian President Gamal Abdel Nasser supposedly purchased arms from Czechoslovakia, not from the Soviet Union, in 1955.[15]

Correspondingly, on 23 March 1956, a Czechoslovak business delegation arrived in Sana'a via Cairo and Djibouti to launch negotiations. Displeased by various Soviet conditions dictated upon them, the Czechoslovaks negotiated a contract that was signed in Prague on 11 July 1956 and stipulated deliveries of arms and equipment as listed in Table 1.[16]

Most of the arms in question were delivered to Yemen during the first half of 1957. Specifically, a total of 20 B-33s and four CB-33 conversion trainers arrived on 18 May. Right from the start, this type proved entirely unsuitable for operations under local conditions. High temperatures and the high altitude of the local airfield presented nearly insurmountable obstacles, and by 4 June the officers who arrived with the aircraft reported that it was impossible to assemble and operate the Avias under tropical conditions. Not only had the B-33s already been crated for some time, but there was a latent lack of support materials and equipment, as well as spare parts. Taken together, these factors had a very negative effect upon the introduction to service and the technical status of the delivered aircraft. Unsurprisingly, as of 13 December 1957, only nine B-33s and two CB-33s had been assembled.

Eventually, not a single Avia was ever flown in Yemen, and they were sorely missed during continued fighting with the British in the Aden Protectorate, in January-February and again in August-September 1957. Nevertheless, by this time the Imamate had up to 22 other aircraft in operation, and many of these were used to haul arms and supplies to loyal tribesmen in Baida, Qa'tabah

Table 1: Arms and Equipment Ordered by Yemen From Czechoslovakia, 11 July 1956		
Quantity	**Designation**	**Notes**
24	Avia B-33 (including 20 B-33 & 4 CB-33)*	attack aircraft; including spare parts, ammunition and ground support equipment
10	Zlin Z-126 Trener	training aircraft
30	T-34/85*	tanks
50	SD-100*	self-propelled anti-tank guns (Czechoslovak variant of SU-100)
100	BTR-40	armoured personnel carriers
100	M1939	37mm anti-aircraft guns
100	M1942	76mm field guns
12	M1939/37	122mm field guns
Unknown	rifles, machine guns, mortars, anti-tank grenades	

*From Czechoslovak licence production

A row of Avia B-33 attack fighters 'stored' at Sana'a (South) airfield, sometime in 1960 or 1961. Not one of the 15 or 16 aircraft assembled by the Czechoslovaks was ever flown in Yemen. (David Nicolle Collection)

One of four Mi-4 helicopters donated to Yemen by the Soviet Union in 1956 and 1957, seen abandoned outside Sana'a in 1962. All four were equipped as 'VIP-transports' and wore national markings of the Imamate for the duration of their service – which ended when all Soviet personnel left the country in 1962. Their known registrations were YE-AAP, YE-AAQ and YE-AAV: that of the fourth example, which was written off in an accident in 1962, remains unknown. (Albert Grandolini Collection)

and Harib, where primitive airstrips were constructed for this purpose. Furthermore, it seems that the T-6As did fly sporadic attacks on various of the 'states' considered 'independent' by the British, using machine guns, then their appearance caused enough damage to provoke reports about the appearance of 'MiGs' in August-September 1957, when border fighting almost reached the proportions of a full-scale war.[17]

A team of 28 Czechoslovak and 12 Soviet advisors arrived in September 1957 in an attempt to assemble the Avias and train Yemeni personnel to operate them. However, the Soviets became preoccupied with maintaining one Ilyushin Il-14 transport, two Mil Mi-1 and four Mi-4 helicopters donated by Moscow, while the Czechoslovaks were much too busy with trying to assemble and repair the Avias. Both parties never found time to train Yemeni personnel. Another Czechoslovak team arrived – together with additional materiel and equipment – in January 1958, but even then proved unable to bring any of the aircraft to operational condition. Indeed, a few of the airframes remained stored in their transport crates even after that date.

It thus required the deployment of another team of Soviet advisors to finally set up an Aviation College at Sana'a South: equipped with 10 Czechoslovak-made Zlin Z-126 Trener light aircraft, this accepted its first intake of 56 students in the spring of 1958. Soviet engineers also constructed an airfield capable of accommodating jet fighters and transport aircraft north-east of Ta'izz in April and May 1958, while the Chinese began the construction of a road connecting Sana'a with the port of Hudaydah.[18]

UPPER AULAQI CAMPAIGN

Meanwhile, the war with British forces in the Protectorate of Aden continued to intensify. Indeed, probably due to intelligence reports about the Yemeni acquisition of Avia B-33s, the RAF took care to re-equip its No. 8 Squadron with de Havilland Venom fighter jets in 1956. Similarly, the transport force was further enhanced through the creation of No. 233 Squadron flying Vickers Valetta C.Mk 1s, while construction work began on expanding RAF Khormaksar – at the time one of the busiest airports in the world – through the addition of a second runway.

When all negotiations between London and Sana'a failed, in March 1958, the Imamate found itself on the receiving end of renewed air strikes. Imam Ahmad thus requested delivery of additional equipment – including four Il-4 transports, 100 trucks, 40 cars and 10 buses – and an extension and expansion of the presence

This Yemeni Mi-1 (registration YI-AAT) landed at Nuqub, near Beihan, in what was then the Aden Protectorate, on 5 February 1960 due to a navigational error. Satisfied that the unauthorised incursion was caused by a 'genuine aeronautical reason', British authorities let the Russians fly the machine back to the Imamate of Yemen three days later. (John Fricker Collection, via Simon Watson)

A group of tribal levies with a DHC Beaver of the RAF, sometime in the mid-1960s. (Pit Weinert Collection)

of Czechoslovak advisors from Prague in mid-1958. However, no corresponding deal ever materialised.[19]

In April 1959, the British deployed Aden Protectorate Levy (APL) troops, supported by Venoms, for a major counterinsurgency operation in the Upper Aulaqi Sheikhdom. Insurgents reacted with a counter-attack, an operation which transformed into a campaign that was to last well into 1960. Although managing to effect a temporary stop in insurgent activity, the British failed to bring the situation under control, and on 12 April 1960 launched Operation Demon. Usually described as 'reconnaissance in strength' by 4th Battalion APL, this enterprise lasted for only two days, but was actually an introduction to the next move.

Operation Demon was followed by Operation Outmost, launched on 27 April. This saw a deployment of 3rd Battalion APL to Mahfidih in Beverly transports of No. 84 Squadron. Supported by Venoms of No. 8 Squadron and Shackletons of No. 37 Squadron, these troops moved north, towards Museina, where they met 4th Battalion that had advanced from the opposite direction. Although the fighting lasted well into May 1960, all surviving insurgents were eventually forced to flee into the Imamate of Yemen.

2

YEMEN CIVIL WAR, 1962-1967

Egyptian-Yemeni relations were temporarily tightened in March 1958 when Yemen joined a confederation with the United Arab Republic (UAR) – the union of Egypt and Syria, declared on 1 February that year. However, aware of the fact that his rule was increasingly unpopular and realising that Nasser was seeking to introduce political reforms to his country, Imam Ahmad rapidly lost his original fervour for the union. In late 1959, he sent all Egyptian civil, educational and military advisors back home, and severed relations with Cairo.

Following the reverse to his insurgents at the hands of the British-commanded APL in May 1960, Imam Ahmad reorganised his military. In an attempt to quieten the growing number of dissidents within the military, he appointed the highly educated Colonel Muhammad Abd al-Qaliq Hajar as Chief of Staff of the Army. Hajar had graduated from the Iraqi military academy in Baghdad in 1937, held various positions in the Yemeni military, attended the Staff College in Egypt and served as staff officer in the Military Committee of the Arab League in 1957-1958. The miscellany of aircraft nominally operated by Yemeni Airways and military personnel were reorganised into the 'Air Force and Meteorological Service', commanded by Brigadier General Ghalib Ibn Ahmad al-Jarmuzi. This service was under the control of the 'Pilots and Parachutists School' based at Sana'a South and commanded by Colonel Muhammad Salih al-Ulafi, and the newly constructed Hodeida airport, commanded by Muhammad al-Faqih.[1]

COUP OF 1962

The reform of the military was one of Imam Ahmad's final decisions and proved literally 'too little, too late'. He died in his sleep on 19 September 1962: the next day, the religious teachers of the realm met at Jama al-Kabir, the great mosque of Sana'a, and elected Prince Muhammad al-Badr as the 66th Imam of Yemen. One of Badr's first decisions was to call a cabinet meeting in the Bash'ir Palace for the evening of 26 September.

By this time, the unpopularity of the Yemeni government had reached such proportions that at least four separate coup plots were

Brigadier General Abdullah as-Sallal (with cap), leader of the republican coup of 26 September 1962. (Albert Grandolini Collection)

afoot, each of which could count on widespread support. One group of plotters was headed by Lieutenant Ali Abud, who intended to set the Army's sole armoured unit in motion during the evening of 26 September. Another scheme had been hatched by Brigadier General Abdullah as-Sallal – commander of the Royal Guard – and Colonel Ali Abdel Mahna, leaders of a secret organisation of pro-Egyptian officers, supported by Cairo. Their plot merged with the third conspiracy, linked to the chiefs of the Hashd tribal confederation, who longed for revenge for 1948. A fourth plot was being shaped by some of the younger princes. Although warned at least three times, Badr took no steps against any of his enemies.[2]

On Sallal's command, the plotters bombarded the Bash'ir Palace and proclaimed that Badr was dead on 26 September. Egypt immediately recognised the newly declared Republic of Yemen, now governed by the Revolutionary Council, and Nasser – supposedly concerned over a possible Saudi intervention from the north and a British move from the south – sent his aide Anwar el-Sadat to Sana'a. Sadat returned to Cairo on 29 October, delivering an enthusiastic report. Not only had Sallal demanded more active support from Cairo, but Sadat concluded that the deployment of at least a squadron of UARAF (United Arab Republic Air Force) fighters to target the pro-royalist tribes in the desert would be a particularly opportune development. On 30 September, Nasser agreed to provide one squadron of fighter aircraft, two battalions of special forces and supplies.[3] Field Marshal Mohammad Fawzy, the Chief of Operations of the Egyptian Army at the time, explained the motives and scope as follows:

> The operation was conceived as a limited action comprising political, moral and material support – by no means as an action that could drain our resources, but only to reinforce the nascent republican government and consolidate the revolution.[4]

LIMITED INTERVENTION

First to arrive in Sana'a, on 1 October 1962, was Field Marshal Hakim Amer, Egyptian Minister of War. With him was Major General Abdel Khabir, a company of Saikas (Egyptian commandos) and a company of 150 paratroopers from 77th Paratroop Battalion. All were flown to Yemen on board the first eight out of 22 Antonov An-12BPs acquired by Egypt. These had been delivered to No. 14 Squadron UARAF so recently that they had to be flown by Soviet pilots, because no Egyptians were qualified to operate them.[5]

Once in Sana'a, Amer met the members of the Revolutionary Council and negotiated the appointment of Major General Abed al-Menahim Khalil as Chief-of-Staff of the joint Egyptian-Yemeni forces, while Major General Khabir assumed the position of liaison officer to Major General Sa'adi Najib, whom Sallal – who was widely regarded as a competent, if 'brazen' officer – appointed as Commander of the Yemeni Army. The situation they faced was encouraging. The Revolutionary Council was backed by tribes from southern and western Yemen, and the military. The fledgling Yemeni air force was *de facto* non-existent: none of its aircraft and helicopters were operational, but its few pilots and ground personnel had all sided with the coup plotters. Their sole operational airfield was a dust strip south of Sana'a, but additional landing sites were meanwhile developed in several other places. Gabr Ali Gabr, the officer assigned to command the crucial facility, recalled:

> The Sana'a airfield had only a dirt strip, and the very first thing that had to be done every morning was to drive heavy rollers over it, and then spray it with water in order to consolidate the earth and prevent the creation of too much dust – or mud during the raining season … Fuel had to be stored in semi-buried fuel tanks … All the security of the base and its installations, pipelines etc. was the responsibility of Egyptian not Yemeni forces … As base commander I was responsible for the engineering staff, for feeding the personnel on the base and also all the life within the perimeter.[6]

During the following week, UARAF transports flew almost non-stop to Sana'a, carrying urgently needed men, arms and supplies necessary for the establishment of an Egyptian headquarters (HQ)

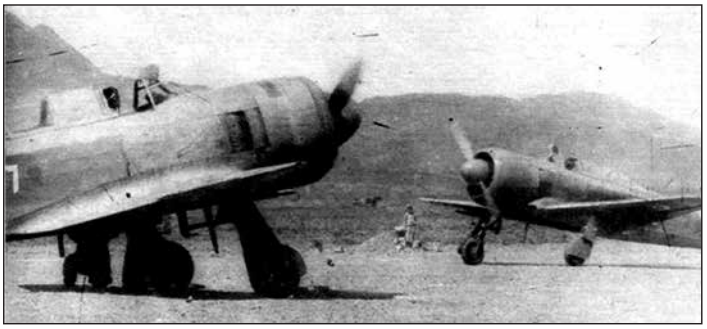
Three photographs showing insignias worn by Il-14s of (from left to right) Nos 11, 14 and 16 Squadrons UARAF. All three units saw intensive involvement in the Yemen War of the 1960s. (Nour Bardai and Albert Grandolini Collections)

This Il-14 – serial number 1101 – was equipped as a VIP transport and used to fly Field Marshal Amer to Sana'a. It is shown after landing there in late 1962. (Pit Weinert Collection)

An An-12B (registration SU-AAP) of the UARAF at Sana'a Rawdah in the mid-1960s. The type only entered service in Egypt in October 1962, and the first eight were flown by Soviet pilots during early operations in Yemen. (Tom Cooper Collection)

in Sana'a, which was declared operational on 18 October.[7] A few days later, the first squadron of Egyptian combat aircraft was deployed in Yemen. The aircraft in question were Yakovlev Yak-11s, originally acquired by Egypt from the Soviet Union in 1956 as advanced trainers. One of the first UARAF pilots to arrive in Yemen was Fikry el-Gindy, who recalled the preparations of his unit:

> Our regiment consisted of three squadrons equipped with MiG-17s. The Commander of our regiment collected the pilots and selected those that were to deploy to Yemen, including me. We were all then sent to the Air Force Academy at Bilbeis air base for a refresher course flying the Yak-11. That type had one gun that fired through the propeller, but I never used this gun. In Yemen, two more .303in guns were fitted inside the wings. This modification was undertaken in Sana'a by Engineer Colonel Zakaria. His team also added 78mm unguided rockets manufactured by Oerlikon in Switzerland, two under each wing.[8]



The first Egyptian combat aircraft deployed in Yemen were piston-engined Yak-11 trainers. Two of them are shown at Sana'a (South) sometime in late 1962 or early 1963. Note that both were equipped with launch rails for 78mm Sakr unguided rockets. (Nour Bardai Collection)

A typical Egyptian military checkpoint in the Sana'a area in 1962 or 1963. US-made Willis jeeps (foreground, right) were used by the same units that operated Soviet-made SU-100 self-propelled anti-tank guns (background, centre). (Albert Grandolini Collection)

The unguided rockets in question became colloquially known as 'Sakr' in the UARAF.

El-Gindy's initial impressions of Sana'a were not particularly positive:

> We landed in a dense cloud of dust then got into a jeep and drove off. After a while I saw a walled city with gates. It looked something directly out of the 'One Thousand and One Nights'. There was nothing outside the city walls. We drove through one of the gates and I could see the heads of executed criminals hanging by their hair under the gate. Inside the city were tall buildings, very narrow streets, and every man carried a gun … There were open sewers down the sides of the houses, leading into small channels in the street. Then we drove out through a gate on the far side. This time there were heads and bodies hanging up there. Then we drove to the Egyptian base which had a few huts and little else. It was extremely primitive. We were given an introductory briefing that same evening and started test-flying the following day … Yemen was an incredibly primitive country at that time. We Egyptians used to say that when Archangel Gabriel came down to Earth to look around to see how mankind had changed, in England, Germany, Egypt and Syria he was very impressed with what he saw and didn't recognize anything from his previous time here [when he appeared to the prophet Muhammad in the 7th century]. But, when the Angel reached Yemen he said, "Now, don't tell me, I know where this is: it's Yemen".

Flying over the local terrain caused many problems for Egyptian pilots, as el-Gindy explained:

> We had no maps or navigational aids in Yemen. Instead, we learned to recognize particular mountains and to give them nicknames. There was the mountain shaped 'like a knife' and the mountains 'like a jelly', and 'like two trees'. It was very difficult to find targets in Yemen. My first flight was with a passenger who was like an observer to study the area. That was Captain Salah Othman who had been one of my instructors at Air Force College at Bilbeis. After that I always flew solo.

After securing Sana'a and pushing the Royalists away from the local airfield, the Egyptians assessed the situation as 'stabilized enough'. Much to dismay of the General Command in Cairo, however, this was to change in a matter of days.[9]

SAUDI-SUPPORTED INSURGENCY

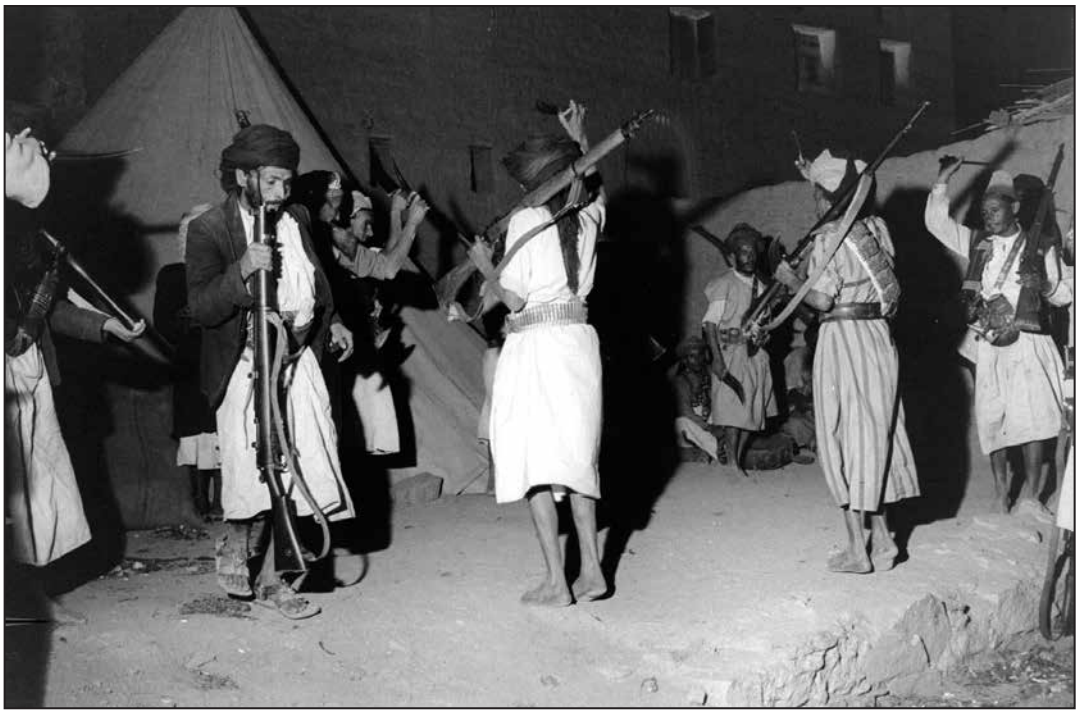
Contrary to what Sallal and the coup plotters proclaimed, Imam Badr survived the attack on the Bash'ir Palace and escaped into the mountains, where he managed to attract support from many Zaidi tribes. However, contrary to what the media in Great Britain and the USA was reporting, his arbitrary autocracy was anything but popular. On the contrary, all of the military and a majority of the Yemeni population sided with the new Republican government. Despite this, Badr was determined to re-establish himself in power in Sana'a and requested help from Saudi Arabia. Afraid they might be the next target of an Egyptian-supported revolution, the royals in Riyadh publicly accused the new government in Sana'a of, "murdering Yemen's tribal chieftains to turn Yemen Communist" and agreed to provide gold, arms and supplies to Badr.[10]

In a matter of days, forces loyal to Badr were permitted to establish a major base in the town of Najran, near the frontier to Yemen, from where they launched their first incursion into Yemen in early October 1962. According to Egyptian and Yemeni reports, this operation was supported by elements of the Saudi Royal Guard. After crossing the border, the column attempted to reach the town of Sa'ada, in northern Yemen, while distributing arms and money to several local tribes in an attempt to attract their support. One of the official reports released by Sana'a stated:

> Yemeni air force fighters later strafed the infiltrators, crushing most of them. Those who survived immediately surrendered to the approaching Yemeni ground troops. The Yemeni revolutionary command then rushed wireless-equipped armed reinforcements to the northern border and used transport aircraft to carry the troops to the remotemountainous border positions. These reinforcements later spotted the vanguard of massive Saudi Arabian troop concentrations moving across the frontier and quickly became engaged with the advancing forces. Up to noon today, the outcome was still unknown.[11]

By 8 October, Yemeni Army units deployed along the frontier with Saudi Arabia were reinforced by several companies of Egyptian paratroopers. In the course of three fierce battles, during which they received close air support (CAS) from UARAF Yak-11s, they not

Imam Badr (centre) with his bodyguards and associates in early 1963. (Albert Grandolini Collection)



Tribes from northern Yemen that sided with Imam Badr included conservatives and clans bribed by Saudi-provided gold to fight against the Republican government. Most of them were rather primitively armed and equipped, but they proved extremely courageous and excellent marksmen. (Albert Grandolini Collection)

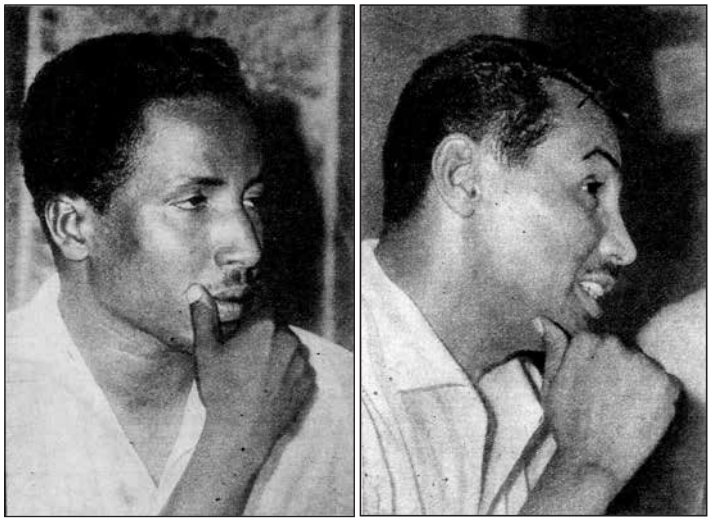
only defeated the Royalists, but also threatened several towns in southern Arabia that served as staging bases for Imam Badr's forces.

ROYAL PROBLEMS

The Republican coup in Yemen and the outbreak of the Yemen Civil War caught Saudi Arabia during a deep crisis. The reasons were complex, and at least partially related to the government in Riyadh investing heavily in a major military build-up. The Saudis had acquired their first military aircraft in the mid-1920s, but all such affairs had remained completely in the hands of foreign advisors well into the 1960s. A five-year plan for establishment of an air force was originally developed by a British advisor in 1950, but very little happened, even once the Royal Saudi Air Force (RSAF) came into being as an autonomous service in 1953.[12] A year earlier, a US training mission had been established at Dhahran, and the training of Saudi pilots began using six T-6A Texans and about a dozen Temco Buckaroos.

In 1955, in light of the treaty for the use of Dhahran airfield by the US military being due for renewal, Washington authorised delivery of eight Douglas B-26B and one TB-26B Invader light bombers for No. 3 Squadron. Six Saudi crews were trained on these during the same year, while No. 6 Squadron was equipped with 12 de Havilland Chipmunk T.Mk 10s and four North American T-28Ds. By 1957, No. 4 Squadron became operational at Jeddah, equipped with six Fairchild C-123B Providers, a few Douglas C-47s and two Douglas C-54s. During the same year, No. 5 Squadron was established and equipped with a total of 18 de Havilland Vampire FB.Mk 52s donated by Cairo, while No. 15 Squadron was equipped with Lockheed T-33A jet trainers.[13]

However, combined with other ill-advised financial policies of King Saud Ibn Abdulaziz as-Saud, as well as the spread of pan-Arabism over all of the Middle East, this development brought the country to the brink of financial collapse and resulted in deep rifts within the royal family. The pan-Arabist faction – also known as 'Free Princes', centred around Prince Talal – propagated cultivation of close links to Egypt and democratic reforms. Other factions and the religious leadership countered such demands by pressuring King Saud into appointing Crown Prince Faysal to the position of prime minister and giving him wide executive powers. One of Faysal's first decisions was to cancel the US-controlled military build-up and massively cut spending for defence in 1958. This resulted in a situation where 16 North American F-86F Sabres delivered to re-equip No. 5 Squadron during the same year, and 10 Lockheed T-33A jet trainers for the newly established No. 15 Squadron, all arrived without any armament. Furthermore, they were frequently grounded for lack of spares and inadequate maintenance facilities.[14]

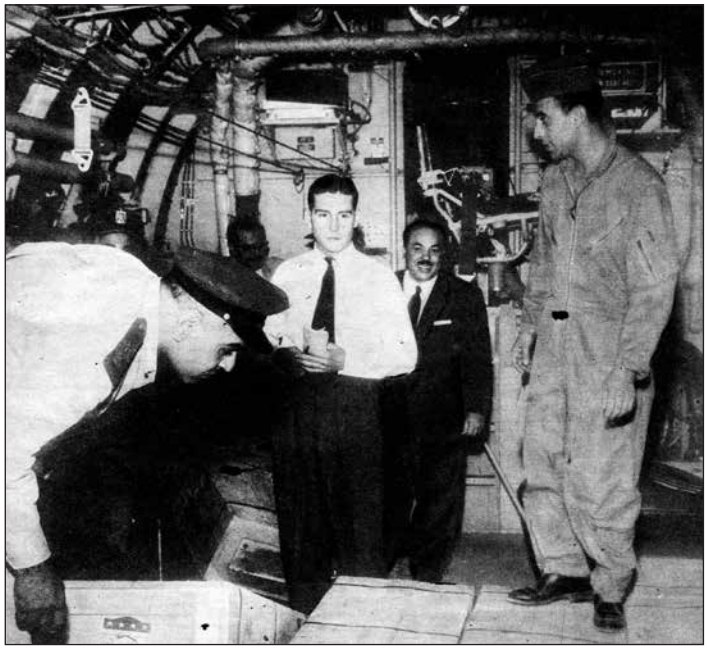


RSAF pilot Hamad Zahrani (left) and his co-pilot, Abdel Wahab, defected with a C-123B Provider transport to Aswan in Egypt in October 1962. (Nour Bardai Collection)

Four years later, not only had the general condition of the Saudi military deteriorated significantly, but many military officers – especially in the air force – were not only sympathetic to pan-Arabism and Nasser's aspirations in regards to Arab nationalism, anti-imperialism, solidarity and international non-alignment, but also to the Yemeni revolution. Therefore, when ordered to fly supplies for Royalists, a number of them defected to Egypt.

On 1 October 1962, Hamad Zahrani and Mohammad Abdel Wahhab flew a C-123B of No. 4 Squadron, RSAF, loaded with 110 US-made Garand rifles and ammunition destined for Yemeni Royalists, from Jeddah to Aswan, instead of to Royalist-held Ma'rib.

A C-123 Provider of the same type as flown by a defecting Saudi crew to Egypt in October 1962. (John Fricker via Simon Watson)



Egyptian officials inspect the cargo of the RSAF C-123B flown to Asawn. This consisted of 110 US-made Garand rifles and ammunition destined for Yemeni Royalists. (Nour Bardai Collection)

Egyptian ground personnel cheering the two Royal Saudi Air Force pilots who defected to Egypt with a North American T-28 Trojan trainer on 3 October 1962. The aircraft was subsequently returned to Saudi Arabia, but the fate of its crew remains unknown. (Nour Bardai Collection)

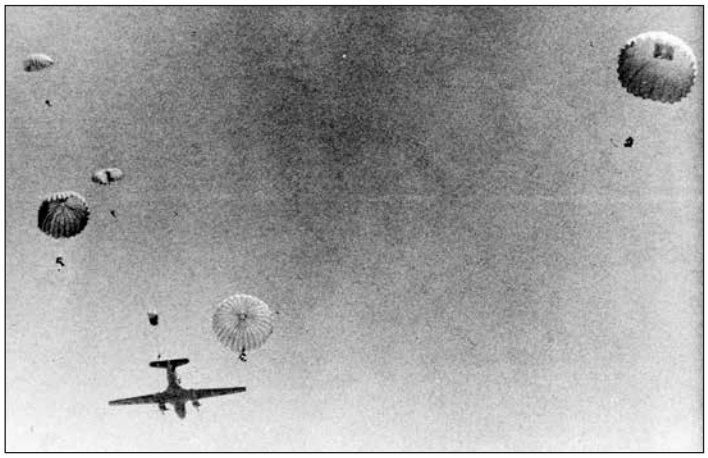
Only two days later, they were followed by another RSAF crew: this defected to Egypt by flying a North American T-28 Trojan trainer. The Saudi government was left with no choice but to ground its air force pending further investigation.

A similar disgrace befell the next Arab air force to become involved in this affair. On 10 November, and despite the lack of public support for such action at home, King Hussein of Jordan ordered his military to deploy to Saudi Arabia in support of Yemeni Royalists. Ten Hunter F.Mk 6 jet fighters and a single de Havilland Dove transport of the Royal Jordanian Air Force (RJAF) were flown from Mafraq AB to Taif. This decision backfired almost immediately: the recently appointed Commander of the RJAF, Colonel Sahel Hamzeh, navigated the Dove – followed by Hunters flown by pilots Arif Sandoukah and Tahsin Fuad Hussein Saima – not to Taif, but to Egypt instead. Barely 24 hours later, two others pilots defected in their Hunters straight from Amman to Egypt. Desperate to prevent a complete collapse, the Saudi military *de facto* put the Jordanians at Taif under house arrest before Prime Minister Wasfi Tell arrived to give them a fiery speech about loyalty, ordering them to fly their aircraft back to Mafraq AB. Jordanian military involvement thus ended by 21 November.[15]

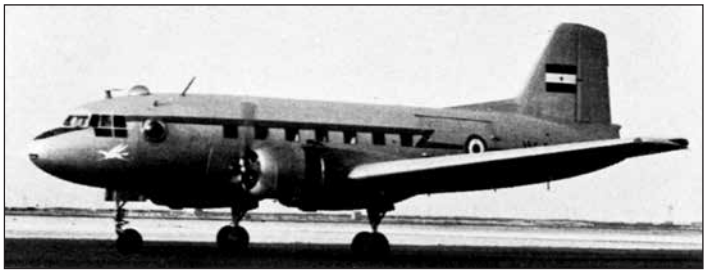
'OPERATION 9000'

The outbreak of the insurgency prompted the General Command in Cairo to completely reassess the situation. The result was what Field Marshal Fawzy later described as "the enormous error": the decision to widen the limited deployment into a full-scale intervention, with the intention of covering the entire battle front, despite difficult terrain and massive differences with local tribes. Thus began what the Egyptians code-named 'Operation 9000'.[16]

By 20 October 1962, three brigades of the Egyptian Army were transferred with the help of merchant ships over the Red Sea to Hodeida. As their columns moved deeper into the country, they ran into a number of ambushes while travelling along winding tracks. UARAF Yak-11s were hard-pressed to provide support for almost every movement on the ground, while also searching for and



A very rare photograph of an UARAF Il-14 in the process of deploying paratroopers over Yemen. The Egyptians launched dozens of such operations during their military intervention of 1962-1967. (Albert Grandolini Collection)



An Il-14 (serial number 1146) of No. 14 Squadron in the mid-1960s. The crews flying these aircraft were the real Egyptian heroes of the Yemen War: their supply operations saved dozens of besieged garrisons. (Albert Grandolini Collection)

attacking Royalists convoys, camps and dissident villages. Another of the Egyptian pilots deployed in Yemen around that time was Tamim Fahmi Abdullah, who recalled:

> In the course of two months I was there, I made many reconnaissance and attack missions. We took some hits because the Royalists were born with rifles and could shoot very well.[17]

A particularly bitter battle developed in the Hadid area, where the Bani Matar tribe revolted against the local Republican garrison. The Egyptians managed to secure the area within 48 hours, but losses in men and equipment were heavy.

On 22 October, Il-14s of No. 14 Squadron UARAF dropped the paras of the 77th Battalion near the village of Srouah, due east of Amran. Supported by Yak-11s, the paras secured the area and advanced on Ma'arib, the former capital of the ancient Kingdom of Sabba (Sheba). Meanwhile, an Army column reinforced by Saikas advanced along the road from Sana'a. They ran straight into an ambush set up near Ra's al-Aqoob and suffered heavy casualties. The Egyptian command was forced to announce considerable rewards in gold for every paratrooper the locals rescued and brought back safely.[18] In the course of this operation, Egyptian Yak-11s struck Nuqab near Beihan, prompting the RAF in Aden to order Hunters to patrol along the border and destroy a fort in Yemen in retaliation.[19]

Apparently stunned by this defeat, on 28 October Amer returned to Sana'a to – in typical fashion for him – first dismiss the Egyptian military attaché, Lieutenant General Anwar al-Qa'ady, but then order him back and assign him as a new Commander-in-Chief of Egyptian forces in Yemen. Al-Qa'ady and Khalil then regrouped the paras and Saikas, and launched an operation along the Sana'a–Ra's al-Aqoob–Soroah–Ma'rib road, not only forcing the Royalists away

A group of Egyptian pilots run to their Yak-11s deployed at Sana'a (South) in early 1963. (Nour Bardai Collection)

from the capital, but also securing Ma'arib in the process. From that time onwards, the UARAF usually deployed at least one Yak-11 for reconnaissance ahead of any convoy moving away from Sana'a. This idea apparently came about when, wishing to get a better insight into the situation of his ambushed troops in the Ra's al-Aqoob area, Major General Khalil ordered an UARAF Yak to fly him over the place.[20]

The next Egyptian offensive was launched a few weeks later in December, into the Sirwah area. This involved a combination of an airborne deployment of the 77th Para Battalion, deployed in support of Republican forces, and an Egyptian Army armoured brigade that advanced along the road to Sabba. Although reaching their objective in securing the area, the Egyptians once again ran into a series of ambushes and suffered heavy losses.[21]

By the end of 1962, Egypt had deployed 40,000 troops and about 30 aircraft to Yemen. Furthermore, Il-28 bombers of the UARAF flew regular air strikes from Ras Banas airfield in southern Egypt. Some of their attacks ranged as far south as the border with the Aden Protectorate, prompting the RAF to deploy Hunters of No. 208 Squadron at Khormaksar, in addition to the already present No. 8 Squadron. English Electric Canberra PR.Mk 7 reconnaissance bombers of No.13 and No.58 Squadrons followed, sometimes flying sorties deep over Yemen in an attempt to track the deployments of Egyptian troops. Because of near-simultaneous developments in the Persian Gulf, Indian Ocean and Far East, the RAF base at Khormaksar became so overcrowded that the British were forced to construct another airfield at Beihan, only about a dozen kilometres further north.

BRITAIN'S DIRTY LITTLE WAR

Shaky loyalty of their own military forces, and the collapse of intervention attempts by the Jordanians and Saudis, convinced the governments in Amman, London and Riyadh that a different approach was necessary. In the light of Radio Yemen calling for the assassination of the as-Saud – including the Free Princes – the Saudi royal family quickly settled its internal issues. Prince Talal not only publicly declared that he was "entirely wrong", but began praising Prince Faysal's reforms. Realising that the supporters of Imam Badr had no chance of winning a war against the Republicans, the government in Riyadh proved apprehensive of a British suggestion to support the Royalist insurgency in Yemen in a clandestine fashion. British reasons for this decision were explained by Prime Minister Harold Macmillan to US President John F. Kennedy as follows:

> I quite realise that the loyalists will probably not win in Yemen in the end, but it would not suit us too badly if the new Yemeni

regime were occupied with their own internal affairs during the next few years.

What Britain wanted, he added, was "a weak government in Yemen not able to make trouble". According to many Yemenis, the same objective was – and remains – one of the most important Saudi agendas until the present day.[22]

By early 1963, an agreement was reached for the Saudis to provide financing for a covert British operation supplying arms of East European origin, ammunition and various supplies to the tribes that sided with Badr. Furthermore, the Saudis agreed to finance the deployment of a group of British military advisors who were to work directly with the insurgents. In order to avoid parliamentary scrutiny and public accountability, this force was composed of mercenaries rather than regular British soldiers. The resulting semi-official operation was run by former members of the Special Air Service (SAS). They hired a number of retired special forces operatives from Great Britain and France, and deployed them to Yemen via Aden in order to provide training and help arrange a supply infrastructure for the Royalists. Continuously financed by the Saudi government, this operation eventually developed into a major enterprise that resulted in a years-long and bitter civil war.[23]

'OPERATION RAMADAN'

Meanwhile, the Egyptians were busy expanding their position in Yemen. As well as improving the existing runway south of Sana'a, they began the construction of a new, major air base north of the Yemeni capital, named Sana'a Rawdah after an ancient fort nearby. They also constructed auxiliary airfields near Sa'ada, Ma'arib and Mitamma in the desert, and Ibs on the Tihama coast. Because of the poor road network and frequent ambushes, transport aircraft of the UARAF represented the sole link between numerous isolated Republican garrisons and the outside world. Even the crews of the An-12s and Il-14s involved were nearly overwhelmed by the task of running a constant air-bridge between Egypt and Yemen. Nevertheless, Field Marshal Amer managed to muster about 20,000 Egyptian and Republican troops and launch 'Operation Ramadan' on 13 March 1963.

Aiming to destroy Royalist forces concentrated in the Jawf area, 'Operation Ramadan' proved highly successful – at least initially. The Royalists scattered in the face of the Egyptian forces, which overran a number of major supply bases while advancing deep into north-eastern Yemen. However, such operations resulted in demands for support by the UARAF transport fleet that the former could not match. Unsurprisingly, the Egyptian offensive ran out of steam by late March.[24]

Realising the need for additional firepower, and following the expansion of Hodeida airfield into an air base capable of supporting operations of jet bombers, the UARAF decided to deploy MiG-15, MiG-17 and Il-28 jets to Yemen. El-Gindy explained:

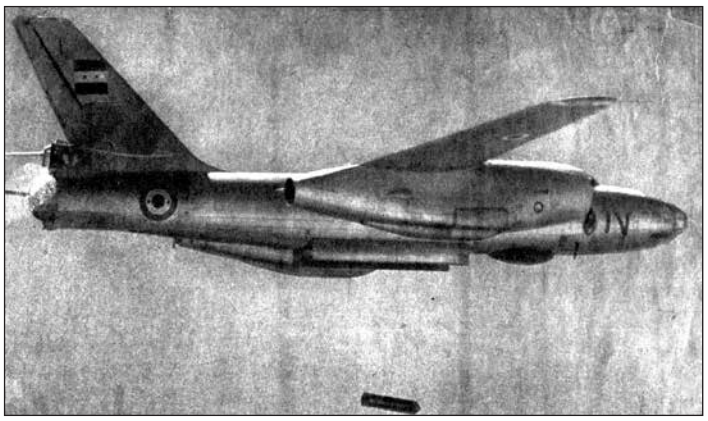
> The MiG-15s and MiG-17s were brought to Yemen in An-12s. Normally, we never mixed aircraft types in one section, but sometimes a MiG-15 would act as a section leader for a new pilot in a MiG-17 … During my second tour of duty, I served with a squadron under Colonel Hassan Abd al-Qadir. This time we were equipped with the MiG-15bis and my first ground support mission was on 10 November 1963, in MiG-15bis number 2670. It was in the area of al-Hajjar village which was on top of a mountain. Just the same as on my first tour, we never let one aircraft go on its own. Usually, it was a section of two aircraft but sometimes two sections, four aircraft … My first mission in Yemen in a MiG-17 (serial 2017) was on 29 November 1963. In our log books we wrote combat and night flying missions in red ink. This was a tradition we got from the RAF. All the radio communications, orders and briefings were in English. Arabic had been tried but did not work very well, so we went back to English.

Before long, Abdullah Tamim Fahmi was transferred to the same unit where el-Gindy served:

> Then I was transferred to another base in Yemen, where there was a MiG-15 squadron. I flew many ground-attack missions in the MiGs and used the two 23mm and one 37mm cannon. They could do plenty of damage.

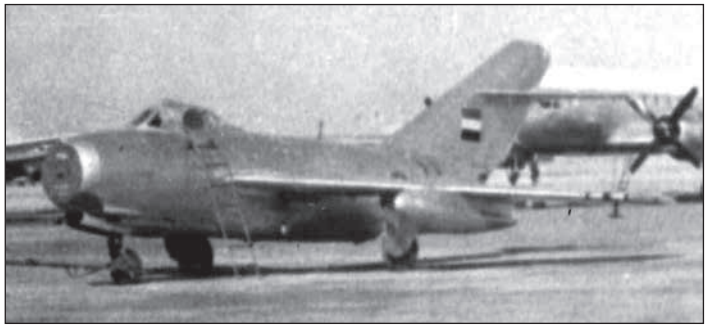
STRIKES ON SAUDI ARABIA

As the British operation in support of the Royalists from bases in Saudi Arabia intensified, in April and May 1963 the UARAF began deploying Il-28 bombers from the newly constructed Hodeida AB on the Red Sea coast. Their appearance was confirmed by air strikes on Jizan and Najran on the morning of 6 June, when three bombers hit either town. Three others repeated the raid on Jizan three hours later. On the same day, two MiG-15s and one Il-28 raided Khamis Mushayt, 87km from the nearest point on the frontier to Yemen, destroying a number of dwellings, damaging at least one hospital and killing several civilians in the process. On the morning of 8 June, five MiGs and Il-28s attacked Jizan, where 30 people were



An Il-28 of the UARAF (coded 'N') dropping a Soviet-made 100kg FAB-100M46 bomb over Yemen. (Ali Tobchi Collection)

Another type deployed by the UARAF in Yemen and used for multiple purposes was the Mil Mi-4 helicopter. This example is shown landing next to a column marching through the desert in the Ma'rib area. (Tom Cooper Collection)



A rare photograph of a UARAF MiG-15 from the mid-1960s (note the slipper-type drop tanks). About a dozen such aircraft were deployed to Yemen from early 1963. (David Nicolle Collection)

Aircrews and groundcrews of Egyptian Il-28 bombers at Sana'a Rawdah AB in 1963. Note the attractive insignia applied below the cockpit of the aircraft, including a stylised bomb in black and a yellow cobra, apparently associated with No. 7 Squadron, UARAF. (Ahmed Keraidy Collection)

killed, 22 homes demolished, and the local hospital badly damaged. Around the same time, two Il-28s and two MiGs attacked Khamis Mushayt again, this time hitting a guardhouse at the entrance to the local air base, where a number of Saudi personnel were killed.[25]

Sometime between mid-1963 and May 1964, US intelligence counted the following Egyptian aircraft deployed at airfields in the Sana'a area:

- Sana'a Rawdah: nine MiG-15/17, 10 "small, unidentified, single engine (piston) aircraft";
- Sana'a South: six Il-14, two Antonov An-2, six Mi-4, "one twin engine (piston) derelict" and "approximately 22 small, unidentified, single engine (piston) aircraft".[26]

'HARD SURFACE'

Fiery propaganda by Radio Yemen, Egyptian air strikes and Cairo's threats to invade Saudi Arabia caused enough concern for President Kennedy to order 'Operation Hard Surface' – a deployment of interceptors of the US Air Force (USAF) to Saudi Arabia – to bolster the defences. In mid-June 1963, eight North American F-100D Super Sabre jets, 560 support personnel and 861.3 tons of equipment of the 523rd Tactical Fighter Squadron (TFS) – itself a part of the 27th Tactical Fighter Wing – were shipped to Dahran airfield. Three of these aircraft were subsequently forward-deployed at Jeddah airfield, armed with AIM-9B Sidewinder air-to-air missiles. Their crew received orders to intercept and shoot down any Egyptian aircraft that violated Saudi airspace. However, the USAF operation proved completely in vain. Lacking even early warning radars, the Saudis were unable to provide USAF pilots with timely advice about the appearance of Egyptian aircraft. The US operation thus proved entirely pointless. Furthermore, the Egyptian press picked up on reports by the US media about Saudis letting Jewish pilots enter their kingdom and thus into Islam's holiest places, and described this as a weakness of the government in Riyadh.[27]

Feeling bolstered by the USAF deployment to Saudi Arabia, the British reinforced their efforts to resupply the Royalists. Several times through 1963, they reached back upon transports of the Imperial Iranian Air Force (IIAF) to air-drop arms. In August of that year, Douglas DC-4s of Rhodesian Air Services (Pvt.) Ltd made five flights to Yemen from Djibouti. Eventually, activities reached such proportions that President Kennedy began applying pressure upon London to desist, shortly before he was assassinated on 22 November 1963. During the same month, a Lockheed Constellation of Aero Transport Flugbetriebsgesellschaft from Austria was impounded in Djibouti, when it was found fully loaded with arms.[28]

Apart from flying into Saudi Arabian airspace with the intention

Pilots and F-100s from 23rd Tactical Fighter Squadron, 27th Tactical Fighter Wing, US Air Force, assigned to 'Operation Hard Surface' and based at Dhahran in November 1963. (Albert Grandolini Collection)

of striking selected targets, some Egyptian crews simply lost their bearings. On 2 December, the Il-14 with serial number 1148, wearing the White Pegasus insignia of No. 14 Squadron UARAF, strayed over the frontier into the British-controlled airspace over the Aden Protectorate. Short of fuel, the pilot landed at the first airfield he was able to find, only to realise that this was at Lawdar, well inside the Aden Protectorate. When a British officer blocked them by parking a Land Rover in front of the aircraft, the Egyptians did their best to sabotage the aircraft by smashing its instruments before being arrested by British troops. RAF personnel of No. 131 Maintenance Unit were able to make rudimentary repairs, after which Squadron Leader E.V. Mellor of the Empire Test Pilot School flew the Il-14 to Khormaksar on 14 January 1964.[29]

Eventually, the Americans made the decision to end their deployment in Saudi Arabia. Although six F-100Ds and two F-100Fs of the 481st TFS, USAF, replaced the aircraft and crews of the 523rd TFS in November 1963, and were subsequently reinforced by two Boeing RB-50 Superfortress electronic surveillance aircraft and two Lockheed C-130 Hercules transports, the US involvement ceased in March 1964 without a single contact with any Egyptian aircraft.[30]

A STILLBORN YEMENI AIR FORCE

While various Western sources subsequently indicated that the UARAF had supplied, trained and supported the Yemeni Air Force and transferred a number of aircraft to it, there is no evidence that any such thing happened: indeed, next to nothing firm is known about Yemeni military flying during the mid-1960s. Some Egyptian helicopters and transports had received Yemeni Republican insignia, but all were operated by the UARAF. This is not to say that the Republican government stopped its efforts to establish its own air force. When a delegation of the Yemeni government toured Eastern Europe in an attempt to obtain diplomatic support on the international scene, it made a stop in Prague in November 1962, where it officially requested the delivery of 20 Yak-11s and assorted equipment. In return, a Czechoslovak military mission paid a visit to Sana'a in January 1963.

However, no deals materialised because the Republicans were in no condition to afford armament as expensive as aircraft. Similar factors resulted in the failure of another round of negotiations, prompted by the visit of Yemeni President Sallal to Czechoslovakia in March 1964. Discouraged by Sana'a's failures to pay even for arms delivered in 1957-1958, the Czechoslovaks were only ready to provide obsolete arms free of charge. These should have included 3,000 41S (Czechoslovak version of the 7.62mm PPSh-41 sub-machine gun), 18 85mm anti-tank guns, 12 160mm mortars and associated ammunition.[31]

RADFAN CAMPAIGN

'Operation Ramadan' caused crippling losses to the Royalists, and was followed by a campaign of heavy bombardment of their remaining camps and aggressive patrolling by UARAF fighter-bombers. These flew most of their sorties in conjunction with Il-14s that acted as airborne command posts, but sometimes also flew attack sorties – with their crews rolling bombs out of their side doors. Nevertheless, the insurgency survived thanks to Saudi money and British efforts. Surviving Royalists were regrouped by their British advisors and deployed for a counteroffensive in the Jawf region in spring 1964, recovering lots of lost ground. Tribal warriors from the north also continued raiding Egyptian and Republican bases and ambushing convoys. Fikry el-Gindy recalled the scene he experienced following one such attack:

> I was standing in readiness one afternoon when I got a call from headquarters. I had Lieutenant Sayid Darwish with me. We were told to go to an area called Hifa Canyon. An Egyptian force of less than a battalion including 12 tanks was trapped and had already lost some weapons. We were told to help them but also to be careful because they had some Yemeni Republican troops with them. We were not to open fire until directly ordered to do so … We flew to the area, [and] there we saw the troops trapped. Some Katyusha trucks were burning and some Egyptian soldiers were lying dead. We also saw other trucks being looted by Yemenis. But where were the Republicans? I flew around and saw flashes in the shadows caused by the low sun and what looked like sheltered positions. I was being shot at. So I told Darwish to prepare to attack as all of the Yemenis were enemies. Then I had a call from an Il-14 which was acting an airborne command post … They said, "Stop firing, Fikry el-Gindy, wait for your orders!" But no orders came. So I went down with rockets and made two attacks. Darwish attacked with guns. We shot many of the Yemenis and returned to base. Darwish and I immediately flew a second mission and after that I flew a third mission with Ahmad Shafei. We destroyed the ambush so Colonel Orabi could collect his tanks and get back safely. I got [a] medal for this action, which I took on my own responsibility because I could see what was happening with my own eyes.

On 10 March, Royalist forces claimed two UARAF jets as shot down, but the Egyptians are not known to have suffered any losses in aircraft or pilots during this period. Only three days later, MiG-17s provided cover for a formation of helicopters that attacked the village of Bulaq, inside the Aden Protectorate, and destroyed the nearby border posts with several bombs and fire from machine guns.

By that time, a state of emergency was declared in the protectorate after a hand grenade was thrown at the High Commissioner at Khormaksar. He and 52 others were injured and two died in an attack apparently launched by the Organisation for the Liberation of the Occupied South (OLOS). In the Radfan area east of Thumier, the Quteibi tribe – provided with arms and training by Yemen – rebelled against the centralised collection of tariffs, undermining tribal support for the Emir of Dhala, an important British ally in this part of the protectorate. The British reacted by reinforcing their military in Aden: No. 8 Squadron RAF, converted to Hawker Hunter FGA.Mk 9 fighter-jets in 1960, was reinforced through the addition of similar aircraft of No. 43 Squadron, from RAF Akrotiri on Cyprus, and Hunter FR.Mk 10 reconnaissance fighters of the newly established No. 1417 Flight. Another important addition was the Bristol Belvedere helicopters of No. 26 Squadron.

With everything in place, the RAF retaliated with a raid of eight Hunters from Nos 8 and 43 Squadrons on the fort at Harib, a few miles inside Yemeni territory near Beihan, on 13 March 1964. Subjected to a series of attacks with unguided rockets and 30mm cannon fire, this fort was almost completely destroyed. British interceptors also encountered UARAF MiGs over the border between Yemen and the Aden Protectorate, as well as over the Red Sea, around this period, but the Egyptians generally kept the distance and no air combats are known to have ensued.[32]

In mid-May 1964, a battalion of British troops, supported by Hunters, helicopters and artillery, used ropes to climb down their mountain position on Arnold Spur and then advanced into the Dhubsan Wadi, on a supply route from neighbouring Yemen. While most of the local population fled at their appearance, the insurgents offered stiff resistance. One of the British Army's helicopters was

shot down (its crew escaped uninjured), while a Bristol Belvedere helicopter was heavily hit but returned to its base with an uninjured crew. Hunters of the RAF spent the following four days flying continued strikes, until the ground forces completed their mission and were extracted from the combat zone.

HARADH OFFENSIVE

Between June and August 1964, the Egyptian expeditionary forces under the command of Lieutenant General Abd al-Majid Kamal Murtagi, supported by the UARAF, launched their next big offensive, 'Operation Haradh'. Although usually declared a failure by Western observers – primarily because one of the columns involved was ambushed and suffered heavy losses in October that year – this operation, in combination with another, near-simultaneous offensive in north-western Yemen, was actually highly successful. It forced Imam Badr to evacuate his headquarters to Saudi Arabia and to accept a temporary ceasefire in November. President Nasser and the General Command in Cairo were further emboldened when they received the news that King Saud had been deposed and replaced by King Faysal. Nearly a third of the Egyptian Army was then withdrawn from Yemen and their positions handed over to the Republican garrisons.[33]

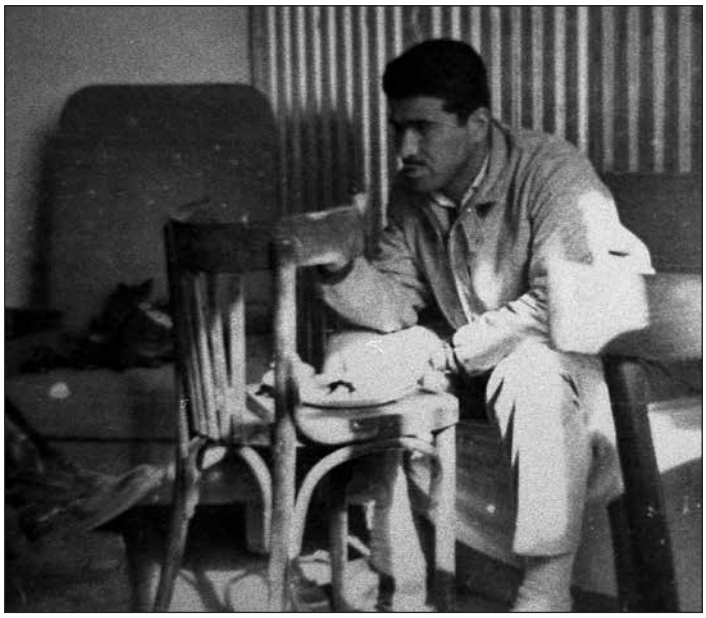
However, in December the Royalists broke the ceasefire and by January 1965 their fighters flooded back into many of the areas vacated by the Egyptians. In the east, they retook Harib, Sirwan, Qafla and Ma'arib, and in the north-west the fortress of Jebal Razih, which controlled many of the key roads north of Sana'a. Furthermore, in the Aden Protectorate – meanwhile reorganised as the Federation of South Arabia (FSA) – the British launched 'Operation Nutcracker', which forced insurgents out of the Thumier area by the end of March.

Having meanwhile withdrawn most of its aircraft back to Egypt, the UARAF was now obliged to increase its commitment in Yemen once again, and it was soon the turn of a new generation of Egyptian pilots to undertake a tour of duty in that country. One of them was Samir Aziz Mikhail:

> I did three months in Yemen, flying MiG-17s. The Royalist forces were meanwhile equipped with 40mm Oerlikon anti-aircraft guns. The Yemenis were also very good at firing rifles at aircraft. During our counteroffensive against Royalists, we lost some Yak-11s to ground fire – but no MiG-17s.[34]

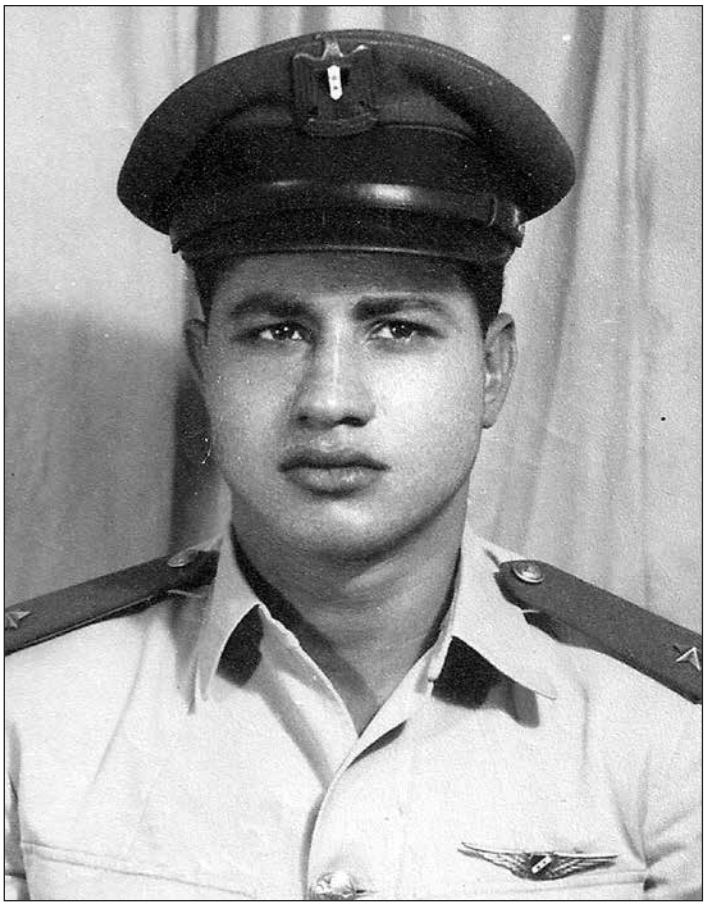
On 13 March 1965, Egyptian forces supported a major cross-border raid by insurgents against the village of Bulaq near Beihan and the nearby border post. This was subjected to several strikes by MiG-17Fs and Yak-11s, and largely destroyed. Meanwhile, the Rabwa road was closed by the Quteibi, and attacks on convoys moving along the Dhala road also increased in number. Some Yemeni sources subsequently claimed that one of the fighter-bombers involved was shot down and its pilot was a 'Russian'. However, the only UARAF flier known to have been shot down and killed in combat during this period was an Egyptian: Flight Officer Omar Farouk Abdel Salam.[35]

In late April, the British deployed their 'Radfan Force' (also known as 'Radforce') for another offensive into the Radfan area. During this operation, the RAF began deploying de Havilland Canada (DHC) Beaver light transports as forward air controllers for Hunter strikes, while the British Army began grouping three Scouts (one equipped with up to three machine guns, the others carrying four soldiers each), with a Westland Wessex helicopter carrying up to 14 further troops in support. While receiving plentiful support in this fashion, ground forces encountered bitter resistance and the campaign continued into mid-June. Because the British lacked troops to secure the area, its primary effect consisted in distracting Egyptians away from 'Operation Leopard', an enterprise run by the British mercenaries who ran the support infrastructure for Royalists, and which resulted in 14 para-drops of East European arms over selected spots inside Yemen by Israeli transport aircraft during 1965.[36]



Conditions in Yemen were always very basic. Fikry el-Gindy, for example, is seen eating his lunch off a wooden chair on a seat salvaged from a crashed Mi-4 helicopter. (Fikry el-Gindy Collection)

Flight Officer (Lieutenant) Abdel Wahab el-Keraidy made a safe 'belly landing' at Hodeida AB when the undercarriage of his Il-28 failed to open in 1965. (Ahmed Keraidy Collection)



Lieutenant Abdul Moneim el-Nahrawy, who was killed during the war in Yemen in 1965 after ditching his Il-28 in the sea off Hodeida. (Ahmed Keraidy Collection)

Neither Egyptians nor the Republicans ever found out about this fact. On the contrary, the UARAF limited its reaction to the increased British presence along the frontier to pin-prick attacks of pairs of MiGs on various border posts in the Beihan area.

EXHAUSTION

Intensive aerial support by the UARAF eventually enabled Egyptian ground forces to defeat the Royalist offensive in the north-west, along the Saudi border, in June 1965. However, the Egyptian expeditionary force suffered heavy losses and was in poor shape by the end of summer that year. The UARAF lost three additional aircraft by the end of the year. On an unknown date, an Il-28 flown by Flight Officer Abd el-Moneim el-Nahrawy ditched into the sea after take-off from Hodeida, with the loss of the entire crew. Another bomber had to be written-off after Flight Officer Abdel Wahab el-Keraidy made a safe 'belly landing' at Hodeida because the undercarriage failed to open (the crew escaped uninjured). Finally, a UARAF MiG-17 was shot down by ground fire, although its pilot – Alaa Barakat – was recovered safely.

The fleet of Egyptian transport aircraft was badly worn out too, largely because of the necessity to deliver supplies to many isolated and besieged garrisons. Such operations were not only intensive, but hardly any mission ended without the involved An-12s and Il-14s returning with a few bullet holes in their fuselage or wings.

Reinforcements and replacements were nowhere in sight, because at the same time President Nasser's inflammatory anti-US speeches prompted the administration of US President Lyndon B. Johnson to halt wheat supplies to Egypt. This decision brought the Egyptian economy to the verge of collapse. For a while, Nasser considered withdrawing all outlying garrisons to within a triangle formed by Sana'a, Ta'izz and Hodeida. Fortunately for him, the Royalists were not only exhausted, but their offensive led to widespread international criticism. Therefore, after securing nearly all of north, east and central Yemen, they agreed to yet another ceasefire, set up on 25 September 1965.[37]

A UARAF Mi-4 disgorging Egyptian Army troops at a forward post in Yemen in 1965. Note the roundel with only one green star in the white field – mimicking national insignia of Yemeni Republicans. (David Nicolle Collection)

A view over the shoulder of a navigator/bombardier in an Il-28 high above Yemen in a tight formation with another bomber, which can be seen in the left background. (Nourd Bardai Collection)

During the Yemen War, Egyptian MiGs frequently operated in pairs: larger formations of up to four were sometimes deployed for concentrated attacks on Royalist camps. However, the majority of sorties were undertaken by single aircraft. (Nour Bardai Collection)

UARAF Il-28 crews in Yemen, sometime in 1964. From left to right: Lieutenant George el-Gawly, Lieutenant Mohammed Keraidy, Lieutenant Nagy Rifaat, unknown, Captain Hanafy Mahgoub, Lieutenant Maged Khorsid and Lieutenant Saif Hafez. Kneeling: Lieutenant Mohammed Ali Mahmoud. (Ahmad Keraidy Collection)

During the same month, Nasser and Sadat visited Moscow to request help. Contrary to usual accounts, relations between Egypt and the Soviet Union had been severely strained since the late 1950s, and after years of tensions, the Soviets had virtually written off their chances of exercising influence upon Cairo. Given this surprising chance of rebuilding their standing in Egypt, they promptly decided to not only supply the wheat instead of the Americans, but also wrote off 50 percent of Egyptian debts.[38]

Furthermore, Moscow agreed to provide Tupolev Tu-16 bombers to the UARAF, which the Egyptians had been demanding since 1961. A group of four carefully selected pilots, three navigators, three navigator-operators and two gunner/radio operators began their training on the type with a Soviet Naval Aviation Unit based at Oktyabrskoye airfield, on the Crimean peninsula, in autumn 1965. Another, much larger group of pilots, navigators, and ground personnel – led by Lieutenant Colonels Hosni Mubarak and Kamal Darwish – underwent similar conversion courses on Tu-16 bombers elsewhere in the USSR.[39] Combined, these two fateful Soviet decisions were to have strong impacts during the final phase of the Egyptian military intervention in Yemen.

In November 1965, the Haradh Peace Conference began, soon followed by the start of a widespread withdrawal of UAR forces from north and north-east Yemen, Cairo having decided to limit the strength of its contingent deployed in the country to 20,000 troops. During this period, the UARAF continued raiding pro-Royalist tribes whenever these threatened a peaceful withdrawal of isolated garrisons, as well as flying support for Republican garrisons. As a result, the Royalists gained very little territory. Egyptian threats of bombing Najran and other Saudi border areas if Royalist forces crossed into Yemen were similarly effective.

'OPERATION MAGIC CARPET'

The ceasefire of September 1965 was exploited by the Saudis to finally bolster their air defences. Following lengthy negotiations, in January 1966 Riyadh signed a contract worth US$154 million with the British Aircraft Corporation (BAC) and Airwork Services Ltd (UK), for a purchase of six BAC Lightning interceptors (including four single-seaters and two two-seaters), and a battery with eight launchers for British-made Thunderbird Mk I surface-to-air missiles (SAMs). Another contract – stipulating deliveries of 22 additional Lightning F.Mk 53s and a similar number of BAC Strikemaster training jets and light strikers – was signed several months later. The resulting enterprise, including deliveries and working up of RSAF units that operated this equipment, became known under the codename 'Magic Carpet'.[40]

The Saudis had barely enough personnel to run existing RSAF units and nobody qualified to fly and operate the British fighters. In order to accelerate this process, and because Riyadh and London remained determined to continue disturbing the Egyptians in Yemen, a decision was taken to add four ex-RAF Hunter F.Mk 6s – all refurbished and brought up to a standard designated F.Mk 60 – and two two-seat T.Mk 7s to the contract. These aircraft were to be operated by contracted British personnel, with a number of ex-RAF (British and Commonwealth) pilots and ground personnel, recruited by the English businessman Geoffrey Edwards.[41]

The Hunters arrived in Riyadh in May 1966, together with six

Whether this Hunter on display at the RSAF Museum is one of the examples delivered to Saudi Arabia under 'Operation Magic Carpet' is unknown, but it has been almost perfectly restored through application of the original camouflage colours and markings. (Photo by R.S.)

mercenary pilots. Before establishing themselves as No. 6 Squadron RSAF, they moved to Taif AB, pending expansion of Khamis Mushayt to permit their operations.[42]

AIR COMBATS

Despite the claims by several involved British sources that the presence of Hunters, Thunderbird SAMs and Royal Saudi Army 40mm Bofors L70/40 flaks at Khamis Mushayt proved "sufficient to stop Egyptian incursions into Saudi airspace", nothing of the kind happened. For the reasons explained above, Egypt was genuinely interested in disengagement, and therefore the UARAF temporarily stopped attacks on insurgent bases in Saudi Arabia. However, as soon as the Royalists renewed their campaign of ambushes and attacks in early summer 1966, the Egyptians reinforced their expeditionary forces and their air force became active again. Starting on 14 October, Il-28s flew several raids on Royalist bases near Najran and Jizan. Several nights later, British personnel operating radars at Khamis Mushayt detected an Il-28 that approached their base at low altitude, disappearing before the defences could react.[43]

Supposedly, the pilots of No. 6 Squadron should then have been ordered to fly air strikes on targets inside Yemen. While specific details of this campaign – run well into 1967, according to Egyptian and Yemeni sources – remain unknown, according to Egyptian sources, at one point in 1966, operations of British-flown Hunters of the Royal Saudi Air Force resulted in an air battle over Yemen. Using documentation left behind by his father, Ahmad Keraidy explained its outcome:

> Two Il-28s were shot down by Hawker Hunters of the RSAF near Sana'a in 1966. Their pilots were Flight Officers Saif Hafez and Nagy Rifat.

While all attempts to obtain further information about this incident were fruitless, it is likely that something of this kind did happen. This is not only because the Egyptians suffered the loss of two Il-28s, but also because they decided to deploy MiG-19

A Hunter FGA.Mk 9 of No. 8 Squadron, RAF, flying low over the rugged terrain of southern Arabia in 1964. Three units equipped with this variant were based at Khormaksar in the 1960s, while No. 1417 Flight operated the Hunter FR.Mk 10 on reconnaissance tasks. (Albert Grandolini)

The downing of two Egyptian Il-28 by 'British Hunters' over Sana'a sometime in 1966 prompted the UARAF to deploy its supersonic MiG-19S interceptors for a tour of duty in Yemen. (David Nicolle Collection)

interceptors of No. 20 'al-Araba' Squadron, UARAF, to Radwah AB – as confirmed in interviews with the contemporary commander of that unit, Alaa Barakat, and several of his former pilots. According to Keraidy, the MiGs eventually caught one of the RSAF Hunters and shot it down in retaliation sometime in October 1966.[44] This apparently happened after two Il-28s bombed Najran.

That the relations between Egypt and Saudi Arabia were particularly strained during this period is obvious from Riyadh's request for additional Thunderbird SAMs, but also from an order

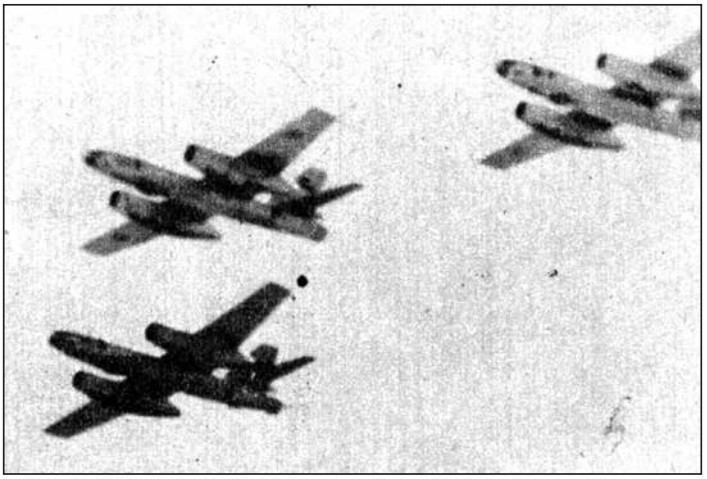
for US-made MIM-23 HAWK SAMs, both of which were dated the same month.[45] Furthermore, it is possible that such clashes were the reason for the interception of a lone RAF C-47 underway off the coast of Hodeida by two particularly aggressive MiG-17Fs of the UARAF on 20 October.[46]

FINAL ESCALATION

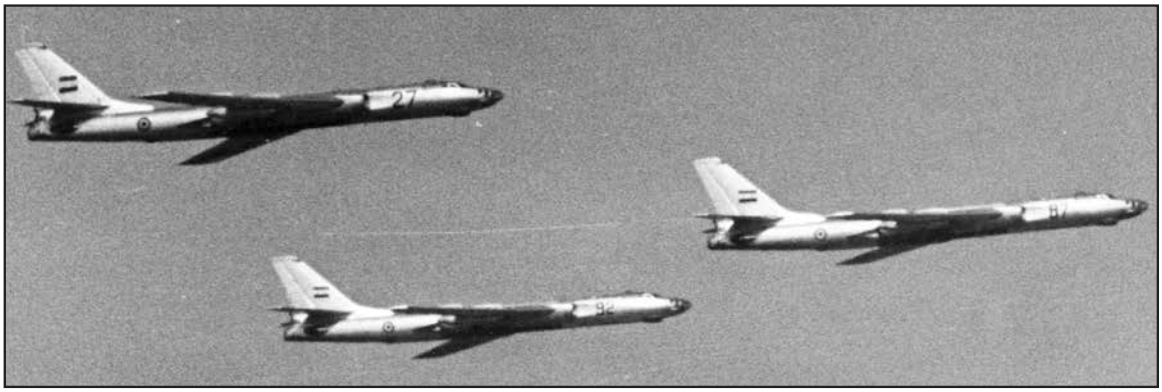
Between December 1966 and January 1967, the UARAF launched a series of highly effective air strikes on several major Royalist bases. Jebel Ayil Yazid was hit by two Il-28s on 27 December; the Royalist HQ at el-Ketaf was attacked by two MiG-17s and nine Il-28s on 5 January; Bayt Michlaf Doran and Bayt Beni Salamah near Anis were bombed by no less than 15 Il-28s and MiGs on 6 January; and Jebel Ayil Yazid was bombed again by at least one Il-28 on 17 January. Furthermore, on 27 January, Najran was bombed by two waves of up to 10 Il-28s (this time escorted by MiG-19s), and at least four civilians killed. As well as causing hundreds of civilian casualties, the attack on el-Ketaf virtually wiped out the Imam Badr's top staff too.[47]

Heavy loss of civilian life and livestock, but also that of insurgents, prompted Imam Badr – who by this time maintained a direct communication link to the British in Aden – to publish fierce allegations of the use of chemical weapons by the Egyptians. He claimed that during the attack on el-Ketaf, the UARAF made use of VF-55 gas and even the biological T-Toxin, mixed with phosgene and mustard gas. Such claims had been issued numerous times since June 1963 – mostly by foreign journalists with ties to Badr – and were subsequently repeated by various British and then Israeli researchers, and think-tanks in the USA, which essentially

A trio of Il-28s positioned for a formation take-off from Sana'a Rawdah AB in 1966. (Nour Bardai Collection)

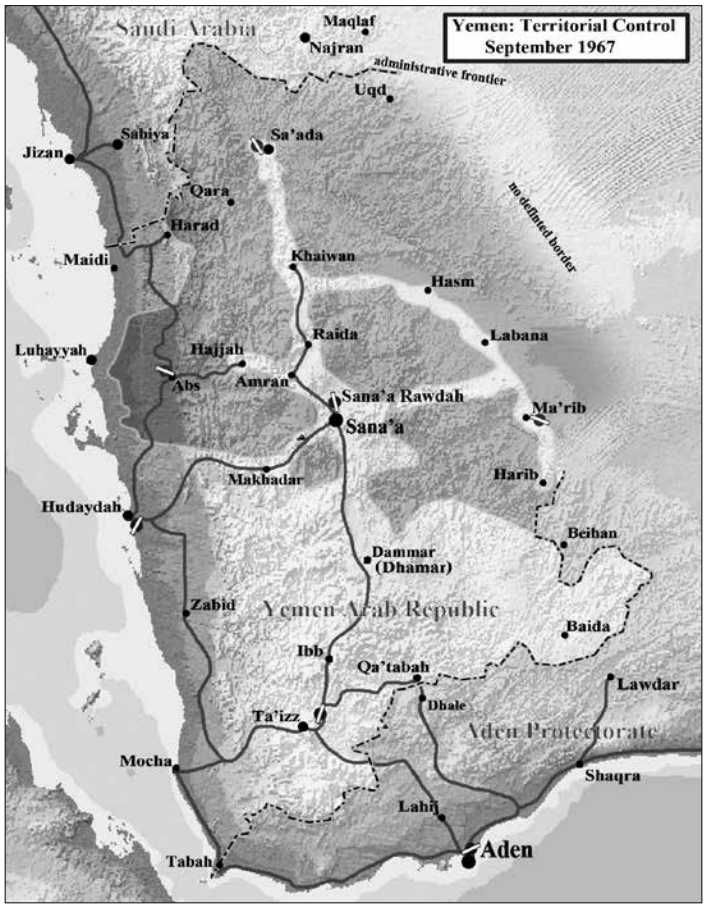


Underway over Yemen, UARAF Il-28s usually flew in typical 'vic' formations, consisting of between three and five aircraft. They were operated by very young crews but proved their worth during the war. (David Nicolle Collection)



A trio of brand-new Tu-16 bombers (serials 27, 87 and 92) of the UARAF flying over Cairo sometime in early 1967. They began flying combat operations over Yemen in April of that year, and several times attacked targets deep inside Saudi Arabia. (David Nicolle Collection)

Towards the end of the Egyptian military intervention in Yemen, the UARAF even deployed its giant Mil Mi-6 helicoters. This example is demonstrating its huge cargo-holding capacity by embarking an entire company of fully armed soldiers. (Nour Bardai Collection)



Map showing territorial control of (North) Yemen as of September 1967: areas controlled by the Royalists are shaded in grey. (Map by Tom Cooper)

copied each other's claims. While Egypt certainly possessed stocks of chemical weapons at the time, and President Nasser supposedly authorised their use in Yemen, Egypt never officially confirmed such operations. Eventually, even in Great Britain – which was far from sympathetic to Egypt at the time – subsequent analysis resulted only in the conclusion that the UARAF was using smoke, incendiary (white phosphorus) and high-explosive bombs during its operations in Yemen, not chemical weapons.[48] Nevertheless, related reporting caused so much outrage that transports of the IIAF were again deployed to provide support for the Royalists, apparently from bases inside Saudi Arabia.[49]

Undeterred by such accusations, the UARAF continued its bombing campaign, and in April 1967 began deploying newly delivered Tu-16 bombers for strikes on Royalists bases in Saudi Arabia. Air Vice Marshal Abd el-Moneim Khalil, the commander of all Egyptian air force units in Yemen at the time, recalled:

> It was easy to demand Tu-16-strikes. I used the codename 'Mubarak' for each strike I wanted and had only to say 'Mubarak' and add coordinates in corresponding messages. The Tu-16s would then fly over the Red Sea, bomb and return to Egypt. This codename was used because Mubarak was meanwhile appointed the commander of the Tu-16 brigade – and flew some of sorties himself.[50]

Egyptian Tu-16s hit Najran on 11 May, and then Jizan three days later. According to Kamal Darwish, on 16 May they went as far as to attack the RSAF Thunderbird SAM-site deployed at Khamis Mushayt AB:

> This was an intelligence-based mission. Two Tu-16s were sent; the second flying about one kilometre behind the first. They flew over the Red Sea at 50 metres altitude at night, to remain under the Saudi radar, and were to reach their target at first light … Years later, when Egypt and Saudi Arabia were friends again, I went to Saudi Arabia and met the Commander of the RSAF. He told me – without knowing that I had been involved in this mission – that there had been two missile batteries in the area. One was manned by the Saudis who were asleep, the other by Americans [or British?], who were drunk.[51]

3
YEMENI AIR FORCE(S)

Between 1959 and 1963, the British merged the Crown Colony of Aden with 16 different territories as the Federation of Southern Arabia (FSA). The states ing this federation did so on the understanding that Britain would retain a presence even after releasing the FSA into independence. However, through the early 1960s several groups of nationalists, Nasserists and leftists emerged – some of them supported by Egypt. Over time, these crystallised into two rival factions: the radical National Liberation Front (NLF), and the Nasserist-influenced Front for the Liberation of Occupied South Yemen (FLOSY). They not only waged a bitter anti-British insurgency, but also fought each other. Their activity gradually shifted the balance of power and moral authority against London and the traditional local rulers. In June 1964, the government in London released The British Defence White Paper, announcing its intention to withdraw from the FSA before 1968. Furthermore, in the face of rising violence, Britain abandoned its plans to establish a moderate government upon departure. This not only emboldened the nationalists but also ruined all British designs to turn the local population against the insurgents. As the people of the FSA realised that after 1967 there would be no alternative to nationalist rule (and no escaping the nationalist vengeance), the British position in Aden became untenable.[1]

Cairo was glad to hear such announcements. Combined with the fact that the Saudis began to draw down their financing of the British operation in support of the Royalists, it meant that Egypt could withdraw significant portion of its forces at a time of increasing tensions with Israel in May 1967. As a result, UARAF operations in Yemen nearly stopped by June, although 10 Il-28s, 12 MiG-17s and an unknown number of Yak-11s remained deployed at Sana'a Rawdah and Hodeida, while additional air strikes were still regularly staged by Egypt-based Il-28s through Ras Banas airfield.[2]

During the Arab-Israeli War of June 1967, the UARAF flew one air strike by six Il-28s on the morning of 5 June, but then stopped all of its combat operations in Yemen. Instead, during the following days, it used local air bases as a safe haven for dozens of transports and light bombers that survived the catastrophic defeat against Israel.[3] Sensing Egyptian weakness, the Royalists launched an advance and occupied several hills overlooking Sana'a Rawdah AB. This in turn forced the UARAF to evacuate all of its operational aircraft to Hodeida. The situation was temporarily stabilised by the deployment of Egyptian Army reinforcements, and another air strike by Il-28s on Ketaf on 1 July.[4] However, the writing was already on the wall for the Egyptian military intervention in Yemen.

The outcome of the June 1967 War marked the period of President Nasser's political maturity. Realising the Yemen War had turned into

A youthful crew of a UARAF Il-28 with their mount (coded 'N' and sporting the insignia of the No. 7) at Sana'a Rawdah, sometime during the fateful year of 1967. (Tom Cooper Collection)

An unknown number of Egyptian Yak-11s continued operating from Sana'a Rawdah until the end of Egyptian military intervention in Yemen in October 1967. This group of pilots was photographed during a typical 'last chance' briefing prior to take-off. (Nour Bardai Collection)

a huge drain of Egyptian resources, costly not only in monetary, but also in terms of manpower and equipment, he virtually abandoned promotion of his 'Philosophy of Revolution'. Instead, he tried to further Egyptian neutralism and to heal at least some of the rifts in the Arab world. During June and July 1967, he met a number of Arab leaders, including the presidents of Algeria, Tunisia, Syria, Jordan and Sudan. This round of meetings culminated in the Arab Summit in Khartoum, held between 30 August and 3 September 1967. While mainly known in the West for the declaration that there would be no peace with Israel, this conference resulted in an agreement of Arab leaders to subsidise Egypt and Jordan for their losses and consolidate Arab military efforts in general. In return, Nasser quietly agreed to disengage from Yemen, while Saudi Arabia ended its financial support for the Royalists.

SOVIET MILITARY INTERVENTION

With few minor exceptions, most Egyptian troops left Sana'a by 16 October 1967. True to their word, the Saudis officially ended their support for the Royalists four days earlier. Left without finances for their operations, the British followed in like fashion.

Although the UARAF donated four MiG-17Fs, two Il-28s and two Il-14s to the Republicans during the withdrawal, Yemeni President Sallal opposed the Egyptian decision and accused Nasser of betrayal. As tensions between him and Nasser increased, Sallal paid a visit to Cairo in early November, when the Egyptian president advised him to resign and go into exile. Sallal refused and decided to travel to Iraq, hoping to obtain support from other Arab states. Immediately afterwards, Nasser cabled the Egyptian HQ in Sana'a, instructing his troops not to block any attempt at a coup.[5]

Usually described as showing one of the Egyptian MiG-15bis donated to the Yemeni Air Force, this photograph actually depicts an ex-Syrian MiG-17F of the UARAF (serial number 82) on temporary deployment in Yemen. Whether this aircraft was one of four reportedly donated to the YARAF during the Egyptian withdrawal in 1967 remains unknown. (David Nicolle Collection)

On 5 November, dissident elements of the Yemeni Army, supported by pro-Republican tribesmen, deployed on the streets of Sana'a, took over the Presidential Palace and announced that Sallal had been removed "from all positions of authority". The coup went unopposed and brought to power the new Republican government, headed by Abdul Rahman al-Iryani, a veteran Islamic scholar and politician, and an outspoken opponent of the Imamate, Egyptian and Saudi meddling into Yemeni affairs. The commander of the Royalists, Prince Mohammed Ibn Hussein, reacted by launching an offensive on Sana'a. By 12 November, his forces had captured Jebel Attaul, overlooking the capital, and four nights later they also took the Assam Heights and Musharaf, thus cutting off the road connecting the capital with Hodeida. In dire straits, Iryani requested help from Cairo, but the Egyptians refused. Left with no choice, the Yemeni President turned to Moscow, where to the surprise of many he received a positive reply. In mid-November, the USSR launched its first ever military intervention in the Middle East.

BORN IN BATTLE

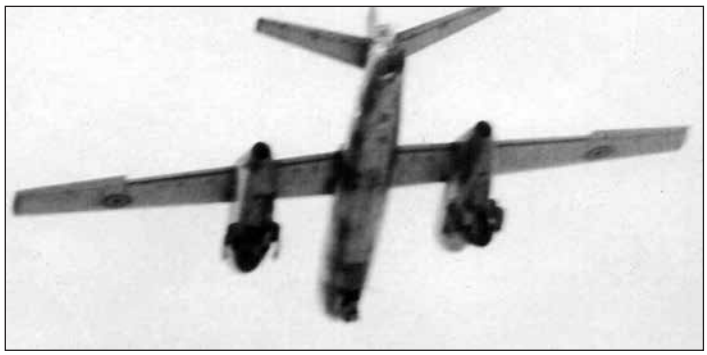
On 17 November 1967, the first of an eventual 18 An-12 transports of the Soviet Transport Aviation landed at Hodeida to unload – among other equipment – a total of nine MiG-17s (an early variant, lacking afterburner), spare parts and weapons. Another 18 An-12s arrived the next day, bringing at least one additional MiG-15UTI. By the end of the month, the Soviets had delivered four Il-28 bombers and three Antonov An-2 utility transports. These deliveries were based on an agreement by President Sallal and the Soviets from September of that year, which stipulated provision of military aircraft and other supplies. All the aircraft were assembled and prepared for operations by a group of between 40-50 Soviet officers and other ranks.[6]

It was through a combination of these aircraft with those left behind by the Egyptians at Hodeida, and the Soviet and Soviet-trained Yemeni personnel, that the Yemen Arab Republic Air Force (YARAF) was finally established as an official branch of the nation's armed forces, commanded by Major General Mohammed Jarallah Shaif, on 20 November 1967. By that date, the composition of the YARAF was as provided in Table 2. Note that while available Yemeni sources indicate otherwise, the air force seems to have inherited a number of Yak-11s left behind by the Egyptians, in addition to a few Z-126s originally purchased from Czechoslovakia in 1956.[7]

Having solved the problem of lack of military aircraft, Sana'a next had to address the lack of personnel. As of 20 November 1967, the YARAF had only two crews qualified to operate Il-14s, while about 50 other personnel was still undergoing training in the USSR. This issue was temporarily solved by the arrival of eight volunteer pilots

Table 2: Order of Battle of the YARAF, December 1967			
Unit	**Base**	**Equipment**	**Remarks**
111th Squadron	Sana'a Rawdah	13 MiG-17 and 1 MiG-15UTI	CO Abdel Wahid Said Ghanem
112th Squadron	Hodeida	6 Il-28	CO Abdullah Ahmed Omar Saeed
113th Squadron	Hodeida	2 Il-14 and 3 An-2	CO Faris Salem al-Sharifi
YARAF Technical Services	Hodeida, Ta'izz		CO Abdul Rahman Safian

A poor, but very rare and highly interesting photograph showing one of 13 MiG-17s donated to the Republicans by the USSR in November 1967. The aircraft was apparently left in 'bare metal' overall, but wore a two-digit serial '53' applied in blue or (less likely) red on the front fuselage. (Pit Weinert Collection)



A very rare photograph of a YARAF Il-28, taken during its landing at Sana'a Rawdah, sometime in the late 1960s. Note the roundels on lower wing surfaces and a two-colour camouflage pattern applied down the rear fuselage. (Pit Weinert Collection)

from Syria, and then through an agreement for Soviet instructors to fly combat sorties.

The next problem was that of saving the Republican government. By November 1967, nearly all Egyptian troops were outside the country: only one brigade was protecting the perimeter around the port of Hodeida and the local air base. All other garrisons were meanwhile controlled by Republican forces and allied tribal militias, but most were weak and unable to do anything more than defend themselves. This in turn opened the way to the capital for Royalist forces under the command of Prince Mohammed Ibn Hussein, and these began converging on Sana'a from the west, east and south. After capturing the peaks of Assam and Musharraf, and cutting the road connecting Sana'a with Hodeida in mid-November 1967, these managed to completely isolate the Yemeni capital from the outside world, by the 27th of that month. A day later, Prince Hussein issued an ultimatum demanding the Republicans lay down their arms within 40 hours, offering an amnesty to those who would switch sides. Thus began a siege that was to last for 70 days.

70-DAY SIEGE

With Sana'a under siege, Prince Hussein concentrated his forces for an attack on Sana'a Rawdah. On 28 November, the air base was heavily mortared, forcing the YARAF to evacuate all the aircraft and nearly all of its personnel to Hodeida. Furthermore, Il-14s evacuated all the employees of foreign embassies – including that of the Soviet Union – to Ta'izz, while President Iryani was flown out to Cairo. Abdullah Salleh recalled the next crisis:

> Sheikh Abdullah Mohammed arrived at Rawdah AB to tell me that a large number of Royalist tribesmen intended to attack our base in a matter of days. Unless the air force could beat them, there would be a disaster for the Republicans. I reassured him, and told him that our Il-14s were already dropping leaflets warning all allied units moving in [the] direction of Sana'a to stop their progress, because we were about to attack everybody moving.[8]

The first combat sorties of the YARAF were flown by MiG-17s, which strafed and rocketed tribesmen who threatened to cut off the road connecting the capital with Sana'a Rawdah on 30 November. About a dozen air strikes proved sufficient to stop this assault. However, later the same day the YARAF suffered its first loss when the Yak-11 flown by Soviet pilot Captain Zharinov was shot down by ground fire while attacking a large Royalist convoy in the Havlan area. Because his aircraft crashed deep within insurgent-controlled territory, it was inspected by several Western journalists. Their reports caused a scandal, which not only resulted in demands for a Soviet withdrawal issued by many Republicans, but prompted Moscow to curtail further involvement of its instructors in combat operations.[9]

With the Soviets out of action, all the burden of flying and fighting fell on the Syrians. Too few in number, they proved unable to maintain the same pace of operations as had the Soviets. Unsurprisingly, the Royalists breached the first line of defences around Sana'a on 4 December, and captured Jebels Dhofar and Aab, within 3km of the city. From there, they began indiscriminately mortaring military and civilian targets, causing a large number of casualties.[10]

With Sana'a Rawdah under constant mortar fire, the YARAF was forced to make use of some of the major streets in the city as makeshift landing sites for its Il-14s and for DC-3s of Yemen Airlines. For most of December, they managed to fly an average of five flights to Sana'a a day, bringing in up to 6,000kg of supplies, while evacuating injured on their way out. During the worst days of the siege, such landings became impossible because of intensive shelling, and thus the practice of para-dropping crates with supplies was introduced. With up to 20 of these being used on average during every mission, they were soon in short supply. The situation was solved in a fashion typical for Yemen: a reward of 50 Rials was offered for every parachute returned to the military. Before long,

dozens of farmers and local traders who used to cross the frontlines every day appeared in Hodeida carrying parachutes and claiming the reward.

On 10 December, a large group of Yemeni personnel returned from the USSR. Although their training was incomplete, and all lacked combat experience, they were rushed into action the same day. MiG-17s of 111th Squadron initially flew visual reconnaissance sorties and provided top cover for transport aircraft, while Il-28s of 112th Squadron flew most of the attack sorties.

On 12 December, Il-28s achieved a major feat when they destroyed a large number of Royalist mortars and artillery pieces. Combined with local counter-attacks by the Republican forces inside the city, supported by T-34 tanks and BM-21 multiple rocket launchers (MRLS), this action not only stopped the insurgent advance, but significantly decreased the pressure on the city and enabled transport aircraft to land inside Sana'a again. Some Royalist mortars remained operational, and one of them is known to have damaged the Il-14 piloted by Captain Saif al-Harti upon landing at Sana'a Rawdah a few days later. The pilot managed to take off and fly to Ta'izz, where Soviet technicians initially concluded that the aircraft required a complete overhaul. Due to the urgency of the situation, the Yemenis convinced them to repair the transport in situ: the Soviets eventually patched more than 800 shrapnel holes.[11]

Combat operations meanwhile reached such proportions that even novice Yemeni pilots became seasoned veterans within the shortest period of time. The YARAF began flying nocturnal air strikes in early January 1968. These were usually led by one Il-28 that dropped parachute-retarded flash bombs to highlight the target, after which the latter was subjected to repeated strikes by MiG-17s and additional Il-28s. Even if not resulting in particularly precise attacks, these tactics proved highly effective in completely demoralising the Royalists: it not only prompted them to abandon a number of important positions, but resulted in the defection of 'General' Kassem Munnassar, a tribal leader and former Second Lieutenant of the Imam's Palace Guard, and his group of insurgents.[12]

Ironically, despite lack of experience, the YARAF suffered no losses during nocturnal operations: it lost its first MiG-17 on 15 January, when Captain Ali Saad ar-Rubaie was escorting an Il-14. He suddenly changed course and moved away from the transport before contact with him was lost. The wreckage of his MiG was found near Bani al-Harith: it seems he attacked a position potentially threatening for the transport and lost control of his aircraft while in a dive.

Sometime in early February, the MiG-17 flown by the deputy commander of 111th Squadron, Major Mohammed ad-Daylami, was hit while attacking a Royalist artillery position west of the capital. Ad-Daylami ejected safely but was killed on the ground while attempting to escape the enemy. It was in memory of this pilot that the air base originally named Sana'a Rawdah by the Egyptians – and subsequently expanded into Sana'a International – was renamed ad-Daylami Air Base.[13]

Other YARAF pilots known to have been killed during the siege of Sana'a included First Lieutenants Abdullah Ahmad Omar Zaid, Ali Saif Abdullah and Mahmoud Abdel-Rahman Osman, and Technical Lieutenant Mohammed Ghalib. The circumstances of their deaths remain unknown.

Due to the intensive efforts of the YARAF, and the deployment of newly delivered T-34/85 tanks and BM-21 multiple rocket launchers, the tide of the war gradually turned and the siege of Sana'a was lifted on 8 February. The blow that proved crucial to this success was delivered by the air force in the course of a nocturnal operation: an Il-28 dropped a stick of SAB flare-bombs over enemy positions overlooking the capital, and these were then subjected to heavy attacks by MiG-17s and Il-28s, followed by an artillery barrage and infantry assault.

Two Royalist insurgents posing with the fin of one of two YARAF MiG-17s shot down during the 70-day siege of Sana'a. (Pit Weinert Collection)

THE END OF YEMENI CIVIL WAR

The defeat at Sana'a not only stunned and demoralised the Royalists, but sent them fleeing towards the Saudi border. According to local legend, their plight was worsened by a series of air strikes supposedly flown by newly delivered Lightnings of the RSAF, which continued attacking the retreating insurgents for days. However, it seems that all such reports are unsubstantiated – at least that the attacking jets were those of the YARAF, as Saudi Lightnings were still not fully operational as of early 1968.[14]

Deliveries of Lightnings to Saudi Arabia began on 7 August 1967, when the first single-seater and two-seater arrived at Khamis Mushayt AB. However, the aircraft in question were not the purpose-built F.Mk 53s originally ordered by Riyadh: these were still in the process of construction. Instead, the British rushed five ex-RAF F.Mk 2s and a single T.Mk 4 to Saudi Arabia.[15]

Two additional single-seaters arrived on 9 August 1967, followed by two others about a week later. While immediately assigned to No. 6 Squadron, their crews could not work-up on the type due to a lack of Avpin-fuelled starters, which had to be adjusted to airfield altitude before entering service. This problem had been solved by 28 August, when two aircraft made a celebratory low pass over their new home (breaking several windows in the process, causing cement rendering to fall off walls and even waking up the Saudi crash crew sleeping in their tent near the control tower). During the night of 16-17 September, the British CO of No. 6 Squadron ordered his unit on alert for the first time, when the local radar station tracked a Yemeni aircraft underway directly above Khamis Mushayt at medium altitude. A Thunderbird SAM was fired, but without result: after passing overhead, the aircraft turned and flew away towards the Red Sea. Three days later, on 20 September, British pilot Peter Hay crashed the Lightning F.Mk. 52 during take-off from Khamis Mushayt AB. Hay ejected in time but suffered injuries to his back.[16]

On 1 October, the supplies of Avpin for the RSAF's Lightnings deployed at Khamis Mushayt ran out, followed – several days later – by those for Hunters. After an urgent request for resupply, both types were back in action by the middle of the month, by which time a small liquid oxygen plant had been installed at Khamis Mushayt, solving the problem once and for all. Nevertheless, another problem emerged when the British pilots assigned to No. 6 Squadron found out that the RSAF personnel selected for flying and maintaining the Lightnings were in need of much more training than originally thought, and that this job would require additional contract crews. Eventually, Airwork was forced to not only recruit additional British and Pakistani mercenaries to fly and service the Lightnings, but also to establish the comprehensive infrastructure required to operate this type in Saudi Arabia.[17]

Although a Saudi lieutenant was nominally made CO of No. 6 Squadron, RSAF, in November 1967, British pilots still had the 'final say' – even more so once the unit was officially declared operational, a month later. On 13 January 1968, a single Lightning was scrambled – followed by a Hunter – after an unknown aircraft overflew Jizan, but both failed to make any contact. Similarly, although the Saudi generals discussed a possible strike on Yemeni air bases, no such mission was ever flown. On the contrary: later that month the CO of No. 6 Squadron received an order for his pilots to be held on 24-hour standby – not in order to defend Khamis Mushayt, but to be ready to evacuate their aircraft should the area come under attack. The Soviet presence in Yemen was obviously having a serious effect.

By the time 'Operation Magic Carpet' was officially ended, on 31 March 1968, the RSAF interceptors based at Khamis Mushayt AB flew very little: barely enough to keep their pilots current on Lightnings and Hunters. Unsurprisingly, one of the single-seaters was written off on 28 November that year when a Saudi pilot, Major Essa Ghimlas, crashed at Khamis while practicing a single-engine approach.[18]

Furthermore, Moscow – which had become interested in establishing its presence and influence not only in Yemen, but also in the FSA – began applying considerable pressure upon Republicans and Royalists. Many of the latter were already demoralised: they not only lost much of their zeal for fighting because of the Egyptian withdrawal, but also questioned the benefits of restoring the Imamate, in spite of Badr's promises of reforms. The Saudis also lost interest in supporting the Royalists, and recognised the Republican

This RSAF Lightning F.Mk 52 ('52-656', later '52-610') survived long enough to be lovingly restored and put on display at the RSAF Museum in Dhahran. It is shown with three Matra 155 pods for 68mm (2.7in) unguided rockets, and a single Firestreak air-to-air missile – one of the most advanced of its time. (Photo by R.S.)

government in Sana'a. This in turn prompted both parties in Yemen to open peace talks that led to a national conciliation agreement: the Civil War ended in April 1970, resulting in the establishment of a coalition government of the Yemen Arab Republic (YAR) under President Iryani.

SOUTH ARABIA AIR FORCE

In the meantime, the FSA was officially released into independence on 30 November 1967 – but instantly renamed the People's Republic of Yemen (PRY, also known as South Yemen) by its new government.

The origins of the armed forces of this part of Yemen can be traced back to the First World War, when a battalion of infantry was formed by the British from locally enlisted Arabs to confront Turkish troops threatening Aden. This unit was disbanded in 1925, but reformed three years later as the Aden Protectorate Levies (APL), under the control of the RAF. Between 1929 and 1939, the APL served to protect airfields and other bases, and also for garrison duties on Perim and Kamaran Islands. During the Second World War, it was reinforced through the addition of an anti-aircraft unit, which in 1940 managed to shoot down an Italian bomber over Aden.

In 1957, the APL was reorganised and placed under the control of the British Army. Four years later, it came under the jurisdiction of the FSA and was officially redesignated the FRA. By 1964, this comprised five infantry battalions, an armoured car squadron and a signal squadron. In June 1967, it was reinforced by the addition of four battalions of the Federal Guard (or National Guard) that were amalgamated into its existing structure, and recruitment of its 10th battalion. A year later, three battalions of the Hadrami Bedouin Legion – an internal security force in the former Eastern Aden Protectorate – were integrated into the FRA. The British trained these units in mountain warfare and helicopter-supported operations, some even for urban internal security operations.

Therefore, when the British hurriedly negotiated a transfer of power to the NLF as the dominant political force in the FSA in November 1967, the new government was able to reach back upon a well-organszed and trained, even if small, army. The only element missing was an air force.

An embryonic service was formed with British help in late 1966 and early 1967, and 10 Yemenis sent to Britain for training. London expressed the intention to supply four C-47s, six de Havilland Canada DHC-2 Beavers, six Westland-Bell 47G-B3 Sioux light helicopters, eight BAC Jet Provost T.Mk 52s, four BAC Strikemaster T.Mk 81s and eight Hunters (to be left behind by the RAF) to the new air arm. These were to be maintained by Airwork Ltd, which was contracted for three years. This British company was also to provide most of the initial flying crews necessary to operate the aircraft and helicopters of the new air force until enough locals were trained. For this purpose, Airwork contracted 18 pilots, mainly ex-RAF, but also a Belgian, a German and a Czech, all of whom were commanded by Squadron Leader 'Rags' Barlow.[19]

One of four Jet Provost T.Mk 52s (serial number 103) shortly prior to delivery to the SAAF. These training jets and light strikers represented the first combat aircraft of the newly created South Yemen. (Albert Grandolini Collection)

The aircraft earmarked for the new air force were partially taken from RAF stock or collected from other sources, and – in the case of the Jet Provosts – taken from the production batch of T.Mk 4s destined for the RAF. Some of the aircraft and helicopters in question received their new national markings as early as spring 1967: this consisted of a roundel with three fields (black, dark green and light blue), with yellow strips between the fields, and a white star and crescent superimposed. However, most such planning failed to materialise because of differences between Aden and London related to the amount of money to be provided by the British for the initial operations of the new air force. Eventually, the Hunters and a number of other aircraft and helicopters were pulled out in the last few days before independence, and – together with about 3,700 British service personnel – evacuated by RAF transports to Bahrain.[20]

The People's Republic of Yemen Air Force (PRYAF) was officially established on 1 December 1967, with virtually all of its administrative staff being foreign personnel under contract, and with equipment as listed in Table 3. Only a few days later, existing national markings were overpainted by dark olive green and new markings of the PRYAF applied instead.[21]

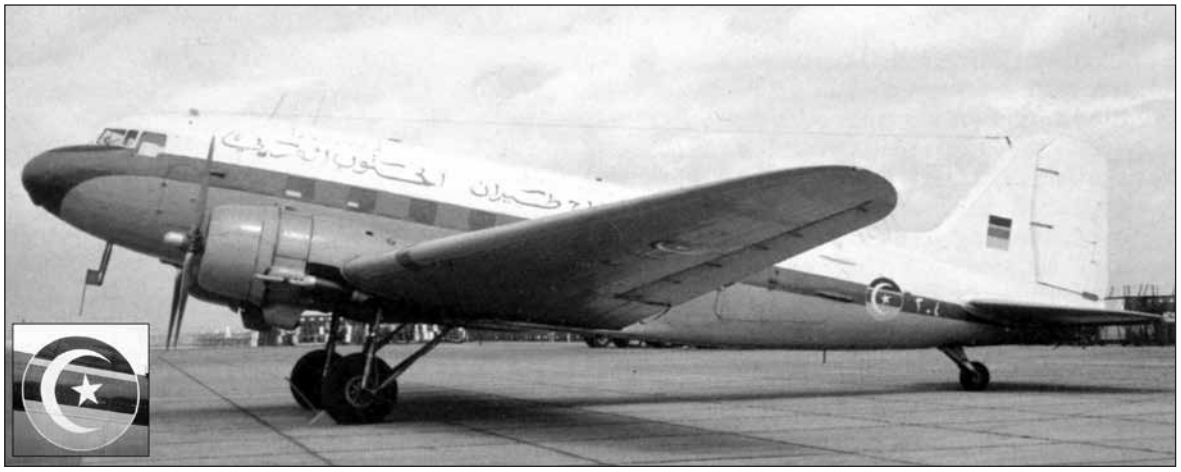
Because there were still several dissident tribes active around the country – meanwhile reorganized as The National Unity Army – the new air force soon became involved in combat operations. The sole surviving Sioux, all available C-47s and Beavers began running not only daily 'mail runs' up-country, but also hauling troops and supplies, and returning on casualty evacuation (CASEVAC) missions. At the time of independence, only four Jet Provosts were available: the other four were only to follow in 1970. However, these flew regular attacks in support of ground forces in the Bayban

Table 3: PRYAF Order of Battle, December 1967

Aircraft Type	Serial Numbers	Notes
Jet Provost T.Mk 52	101-108	4 ex-RAF aircraft present, all brought to T.Mk 52A standard before delivery; 104 was written-off in landing accident in 1968; another was shot down by ground fire in 1968; one aircraft ingested debris during a rocket attack and crashed in 1969; 4 additional aircraft delivered in 1970
C-47	201-204	4 second-hand aircraft, acquired from different civilian companies; 203 was written-off in 1968
DHC-2	301-306	6 newly-built; one was written-off in 1968
Bell 47G-B3	401-406	6 newly-built; three were written-off in 1968

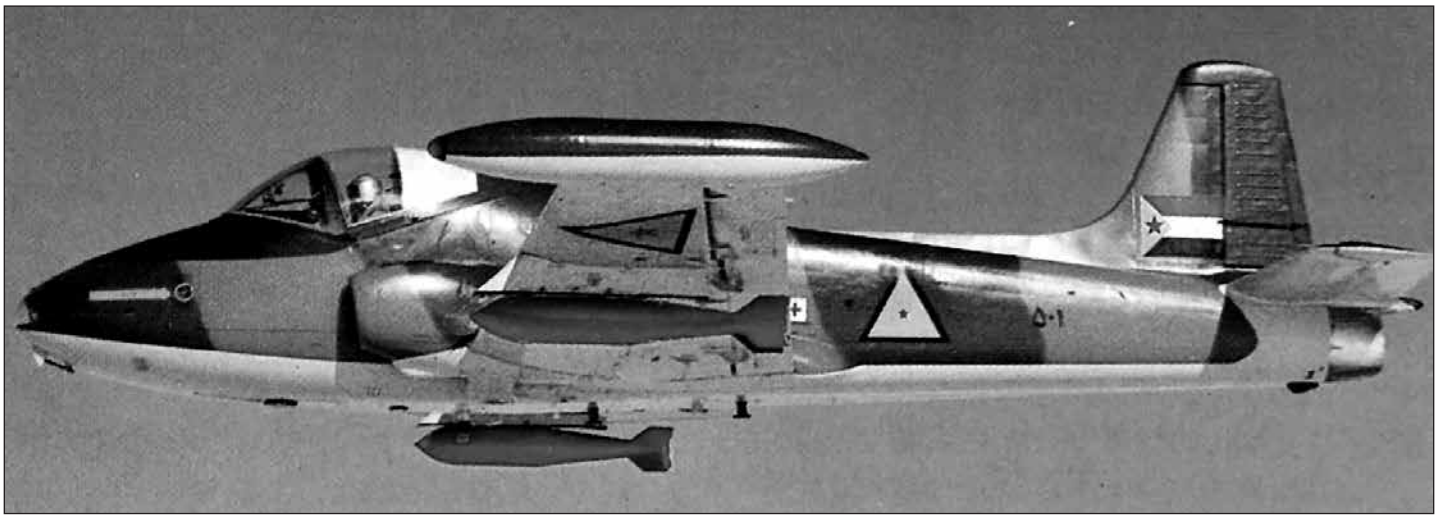
Six newly built DHC-2 were left behind by the British for the SAAF in late 1967. This example is shown already wearing PRYAF insignia (as well as traces of overpainted SAAF insignia). (Albert Grandolini Collection)

The Bell 47G-B2 Sioux helicopter with serial number 404, one of six taken over by the SAAF and then the PRYAF from the British. (Albert Grandolini Collection)



The fourth and last C-47 left behind by the British for the newly established SAAF was this example, wearing the serial number 204. Inset is a detail of the SAAF insignia as originally designed: this was removed within minutes of the last British leaving Aden. (Albert Grandolini Collection)

A rare in-flight photograph of the first Jet Provost T.Mk 52 destined for the SAAF, showing how national insignia was applied on top wing surfaces. (Albert Grandolini Collection)



In 1970, Great Britain delivered four Strikemaster T.Mk 81s. While highly appreciated by South Yemeni pilots, they soon became surplus to requirements due to an influx of Soviet-made aircraft, and were eventually resold in the mid-1970s. (Albert Grandolini Collection)

area, and reportedly caused significant losses to the insurgents. In early 1968, they were several times observed while underway inside Saudi airspace. This caused some early tensions with their northern neighbour but, because the majority of pilots on both sides were British, the government in London took great care not to permit any hostilities. Displeased by these events, Aden complained: failing to reach an agreement, the South Yemen Minister of Defence took a trip to Moscow, and then made an anti-British broadcast on local radio, in which he stated that members of the PRYAF were acting as spies and informing the British Embassy of what the new government was doing. Consequently, the contract with Airwork was cancelled and all foreign personnel dismissed in February 1968.[22]

The PRYAF suddenly found itself having only one qualified pilot. The Yemeni national in question was previously trained by the Indian Air Force to fly Harvards, and received 10 hours of instruction on C-47s. The day after the contract-crews were grounded, he qualified himself on the type with help from one of the British pilots in a matter of a few hours – even if overboosting the engines time and again. By the end of the week, he converted himself to Jet Provosts and – because the PRYAF had no helicopter pilots either – then to Sioux helicopters too.

Despite the valiant efforts of its sole pilot, Aden realised that something had to be done and requested help from abroad. One Egyptian pilot invalided during the June 1967 War was recruited in Cairo, but left soon afterwards. Algeria provided a single helicopter pilot, but he damaged two Sioux helicopters before also leaving early. Eventually, Yugoslavia provided a group of pilots who helped the air force to restart normal operations – supported by some British personnel contracted to perform maintenance.[23]

4
THE LONG WAY TO UNION

Initially friendly, relations between the PDRY and YAR soon turned sour; armed clashes along their border followed. Despite continuous negotiations between Sana'a and Aden, agreements about unity and their common alliance with the Soviet Union, as the 1960s turned into the 1970s, North and South Yemen each developed in its own direction. Driven by ideological as well as private differences, but also foreign interests, each government began supporting various dissident groups against the other.

The experiences from their first few mutual conflicts developed a pattern that was easy to follow for most of the following two decades. Based on one of the fundamental Yemeni cultural norms – by which mediation traditionally served as the means to pre-empt violence – it was characterised by significant military build-ups, and even more inflammatory and violent rhetoric, even if relatively little serious military action.

NORTH YEMENI WOES

Post-Civil War recovery of the YAR proved extremely problematic. Badly damaged by years of fighting, the economy was in tatters. The military ate up to 50 percent of the national budget, totalling only some US$9 million, which was hopelessly insufficient for the circumstances. Controlled by the government, the military's logistical system was not only dependent on Sana'a's trust in the loyalty of local commanders, but also subject to graft and corruption. The Soviets, who wholeheartedly helped during the siege of Sana'a, proved ever more reluctant with the provision of spares and support equipment: Moscow preferred cooperation with the PRY, the government of which was ideologically closer to the USSR, and thus found little incentive in supporting the problematic Northerners.

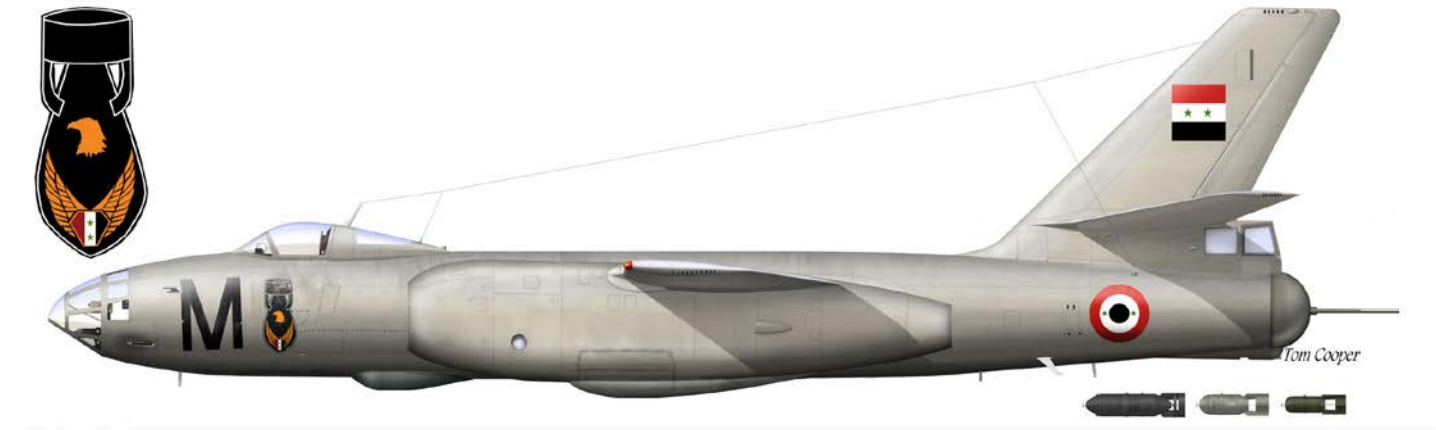
Before long, the lack of Soviet support seriously affected the combat capability of the North Yemeni military. It also had negative impacts upon the morale of the military in general, and began causing rifts between Shafi and Zaidi personnel. In an attempt to improve the situation, the Commander-in-Chief of the YAR armed forces and Chief-of-Staff of the Army, Colonel Hassan al-Amri, visited Prague to request aid in the form of transport and training aircraft, but also MiG-17s, in 1969. As so often before, the Czechoslovaks denied all such requests because they were certain that the YAR could not pay. Furthermore, their own air force had only a few MiG-17s left in service. Instead, Czech officials offered obsolete arms – including old rifles, sub-machine guns, anti-armour rockets and uniforms. It remains unclear whether Amri accepted this offer.[1]

By January 1971, dissent within the 30,000-strong armed forces reached a level where Amri was forced to dismiss several hundred army officers with Shafi backgrounds, apparently because they were in opposition to the government's decision for rapprochement with Saudi Arabia. Later the same year, right-wing officers began plotting a coup with the intention of imposing a military regime, while dozens

A reconstruction of one of two Harvards operated by the Air Force of the Imamate of Yemen before its temporary union with Egypt and Syria in 1957 and 1958. It was finished in bare metal overall and bore the serial number 2, probably applied in black. Red and white roundels based on the Yemeni flag - as it used to be before the Republican coup of 1962 - were applied in place of its former Saudi markings. These included a curved sabre and five stars, all in white, on both the roundel and fin. (Artwork by Tom Cooper)

Considering its serial number – 925 – this MiG-15bis of the UARAF, known to have been flown from Hodeida AB in 1963 and 1964, appears to have been one of 45 MiGs originally manufactured in Czechoslovakia on Syrian order, but delivered to Egypt in late 1955 or spring 1956. After surviving the Suez War of 1956, it was either purchased or donated to Egypt, or taken up by the UARAF during the short-lived union of Egypt and Syria. By 1962, it was equipped with four double rails for Sakr rockets, illustrated here. It wore standard UARAF markings, including roundels in six positions and fin flashes. Inset are the front fuselage and cockpit parties of two ex-Syrian MiG-17s known to have been taken up by the UARAF in 1958, and probably also deployed in Yemen. Their serial numbers were 82 (left) and 99 (right). As usual, all were painted in a mix of 5 percent aluminium powder and clear lacquer overall. (Artwork by Tom Cooper)

A reconstruction of an Egyptian MiG-17F operated out of Hodeida AB and encountered by a British military aircraft patrolling the Red Sea in 1964. Painted in two layers of a mix of clear lacquer and 5 percent aluminium powder, resulting in a livery known as 'bare metal overall' in the West, or 'silver-grey' in the Arab world, the aircraft with serial number 2402 was apparently seconded to Yemen from No. 18 Squadron UARAF, deployed at el-Arish AB on the Sinai Peninsula. It received a yellow bolt outlined either in blue or black, and six blue or black stars, on the front fuselage: it is possible that this was the unofficial insignia of an acro-jet team known to have flown MiG-17s in the late 1950s and early 1960s (See Arab MiGs, Volume 1, p.89, for details). Other interesting details include two banks of launch rails for Sakr unguided rockets, installed close to the wing-tips: by 1964, such installations were common on nearly all UARAF Yak-11s, MiG-15s and MiG-17s deployed in Yemen.



Coded M, this Soviet-built Il-28 was delivered to Egypt in late 1955 and was one of up to two dozen to survive the Suez War of 1956. As usual, it was painted in similar fashion to MiG-15s and MiG-17s, with a mix of 5 percent aluminium powder and clear lacquer overall. The resulting colour became known as 'silver-grey' in most of Arab air forces. By 1963, when it was deployed in Yemen, it had received a large unit insignia of No. 7 Squadron UARAF in the form of a large black bomb, with stylised wings and the 'Eagle of Sallahaddin' in yellow. Inset are typical weapons deployed by this type during the Yemen War, including (from left to right) a FAB-250M-46 bomb, FAB-100M-46 and FAB-50M-46. (Artwork by Tom Cooper)

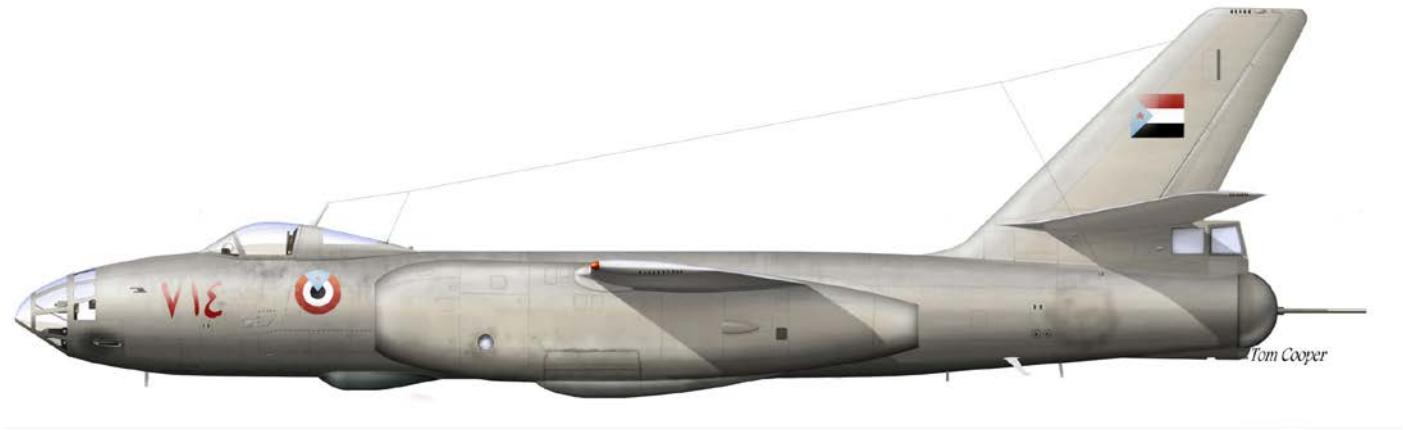
The general appearance of Egyptian Tu-16 bombers (operated by Air Group 65's No. 34 and 36 Squadrons) in 1966-1967 was similar to that of MiG-15s and MiG-17s. Contrary to MiGs, the 'last two' of their serials were based on 'bort numbers' retained from when they were operated by the Soviet Air Force (usually applied on the forward fuselage, as illustrated in these two examples). The full UARAF serial (four figures beginning with a '4') was applied in quite unusual fashion: split into two segments, on either side of roundels applied on the rear fuselage, and top and bottom wing surfaces. The 'last two' of the same were often applied in Persian digits on the cover of the front undercarriage bay. Some aircraft are known to have retained their construction numbers, usually applied in enamel blue below the cockpit.

The four single-seat Hunter F.Mk 60s and two T.Mk 7s operated by No. 6 Squadron RSAF were all camouflaged in colours known as sand (ICI F407-1814) and brown (ICI F407-1815) on top surfaces, applied along the camouflage pattern standardized for this type, and deep sky blue (ICI F407-1813) on undersurfaces. Single-seaters wore serials 60-601, 60-602, 60-603 and 60-604, while two-seaters were serialled 70-616 and 70-617 – always applied in dark green, on the nose and the fin directly above tailplanes. This example, delivered to Saudi Arabia on 2 May 1966, is said to have crashed at Taif AB during a low-level flight in 1967 while flown by British pilot Duncan Simpson. The five surviving aircraft were donated to Jordan in 1968.

A reconstruction of one of the ex-Soviet Air Force MiG-17s delivered by the USSR to the newly established and Hodeida-based 111th Squadron YARAF in 1968. Left in 'bare metal overall' (or 'silver-grey') – which quickly wore out – the aircraft received a typical set of markings for this air force, including roundels applied on each side of the fin (and four usual positions on the wing). Note the large, Soviet-style 'bort number' (53) applied in blue – or in red – on the forward fuselage. Another example from this batch wore the serial number 10 (or '0010') and was later put on display at Sana'a in commemoration of the YARAF's achievements during the 70-day battle. (Artwork by Tom Cooper)

Sometime between 1968 and 1972, most YARAF combat aircraft received a coat of disruptive camouflage colours. While their exact shades are unknown, the colours in question probably came from Syria – which is known to have had a detachment of at least eight pilots assigned to the YARAF during that period. If so, they included orange-sand and green-blue on top surfaces and sides – applied in a pattern that differed from aircraft to aircraft - and light admiralty grey on undersurfaces, as shown here. Roundels were reapplied on the rear fuselage, and probably also on lower surfaces of the wing. 'Bort numbers' – 72 in this case – were always applied in red. (Artwork by Tom Cooper)

As far as is known, the first batch of South Yemeni MiG-17Fs was camouflaged in dark brown (BS381C/411 or 450, similar to F20095) and olive green (BS381C/298, similar to FS34098) on top surfaces and sides, applied in a pattern that differed from aircraft to aircraft. Undersufaces were painted in light admiralty grey (BS381C/697 or FS35622). They all received large 'bort numbers' (35 in this case) in white, outlined in red, but also the crest of the PDRYAF (apparently applied by hand and brush, and differing from aircraft to aircraft). Inset are details of one of the MiG-17Fs delivered by the mid-1970s: these were all painted in light admiralty grey overall, had three-digit serials applied in red and received much larger fin flashes. (Artwork by Tom Cooper)

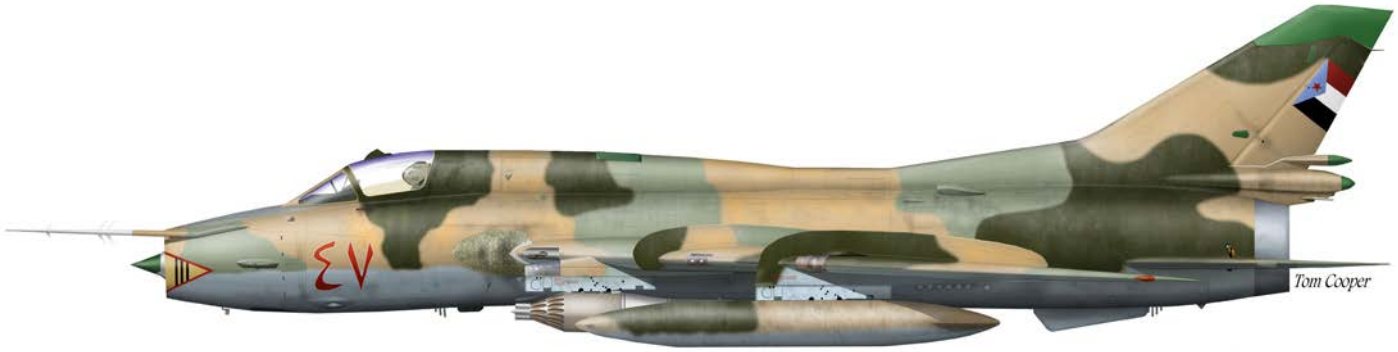


With only two or three rather poor photographs available, exact details of PDRYAF's Il-28s are hard to make out, but it seems that all were left in 'silver-grey' overall. They received three-digit serials applied on the front fuselage, and roundels in a rather unusual position – almost directly below the cockpit. Four additional roundels might have been applied on usual positions on top and bottom wing-surfaces, but there is no visual confirmation for this. Fin flashes were relatively large, and usually had their front party – including most of the blue field – entirely 'flown away'. The type saw some combat service with the PDRYAF during the short war with North Yemen in 1972, and the sole South Yemeni Il-28R flew a single reconnaissance sortie over Oman, in early July of the same year. (Artwork by Tom Cooper)

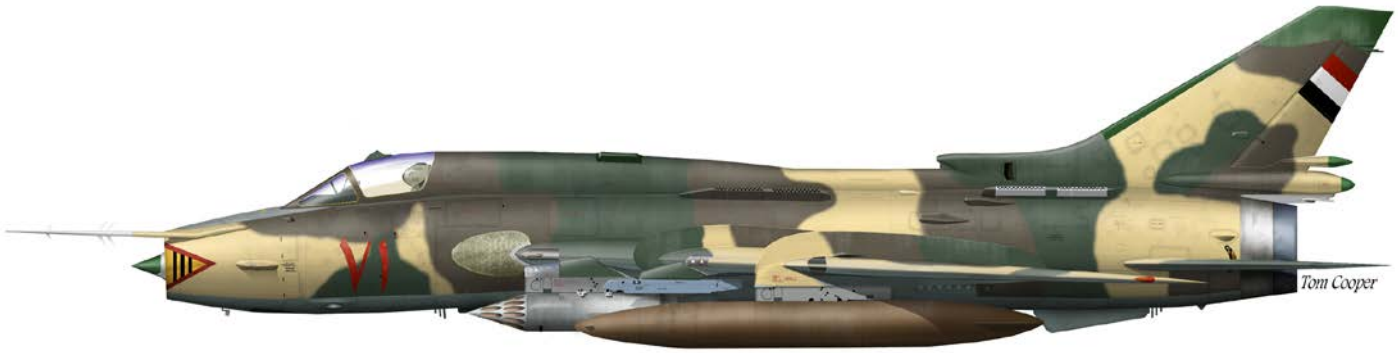
While deliveries of second-hand MiG-21PFMs to South Yemen have been reported, they remain unconfirmed. This is a reconstruction of one of about a dozen MiG-21MFs that entered service with the PDRYAF in 1973 – though as sighted by US Navy pilots in 1985. By then, it was painted in light admiralty grey overall and wore a large serial 148 in red (another known serial of a South Yemeni MiG-21MF was 111, shown inset). The 'Cuban influence' upon the South Yemenis is obvious in the form of its fin-flash, which became typical for most PDRYAF MiG-21s and Su-22s. Usual armament included four R-3S (AA-2 Atoll) air-to-air missiles and 23mm internal cannon. (Artwork by Tom Cooper)

South Yemen acquired at least three batches of MiG-21bis', each of which appears to have received a different camouflage pattern. Most of these were camouflaged in the typical coat of beige (BS381C/388) and olive green on top surfaces and sides, and light admiralty grey on bottom surfaces, illustrated by the example with serial number 176 in the main artwork here. The second batch – including serial number 174, shown centre inset - was camouflaged in similar fashion, but using dark beige or dark sand and blue-green instead of beige and olive green. It also received much smaller fin flashes. Left inset is the example with serial number 124, captured intact at Anad AB in 1994: this wore a camouflage pattern consisting of dark beige or dark sand, light green-grey and dark green on upper surfaces, and light admiralty grey on undersurfaces – as applied on MiG-21bis' exported to Congo-Brazzaville, Mali and Mozambique in the early 1980s. (Artwork by Tom Cooper)

South Yemen was one of the major export customers for several variants of the Su-22-series. The first to arrive were 12 Su-22s, all of which appear to have been camouflaged in dark brown (BS381C/411 or 450, similar to F20095) and olive green (BS381C/298, similar to FS34098) on top surfaces and sides, applied in a pattern that differed from aircraft to aircraft. Undersurfaces were painted in light admiralty grey (BS381C/697 or FS35622). All aircraft also had an 'anti-glare panel' applied in grey in front of the cockpit, as well as large 'bort numbers' (29 in this case) applied in red. As far as is known, they received no roundels. This example is illustrated armed with four FAB-500M-62 general-purpose bombs and carrying RTB-1150 drop tanks, with a capacity of 1,150 litre. (Artwork by Tom Cooper)

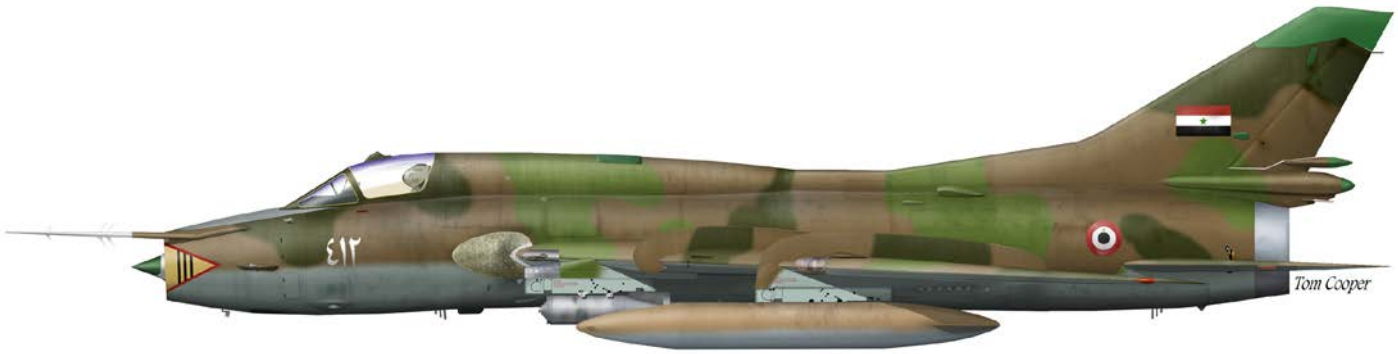


Up to 40 Su-22Ms, Su-22M-3s and Su-22UM-3Ks were delivered to South Yemen between 1980 and 1986, where they entered service with the unit variously reported as the '15th' or '22nd' Attack Regiment. It is likely, but remains unconfirmed, that some Su-22Ms were upgraded to Su-22M-2K-standard by 1986 – as was done in Iraq, Libya and Syria in the mid-1980s. This variant, or one of the Su-22M-3s, is illustrated here with 'bort number' 47. As far as can be estimated on the basis of photographic evidence, most of the aircraft in question were painted in dark beige, light green-grey and olive drab, applied in very different patterns. While arriving together with significant shipments of R-13M air-to-air- and Kh-28 (AS-9 Kyle) anti-radar missiles, for most of their service life the South Yemeni Su-22M/M-2/M-3s were armed with simpler weapons: illustrated here is a UB-32-57 pod for 57mm unguided rockets of type S-5. These were used in large numbers during the Civil War of 1994.



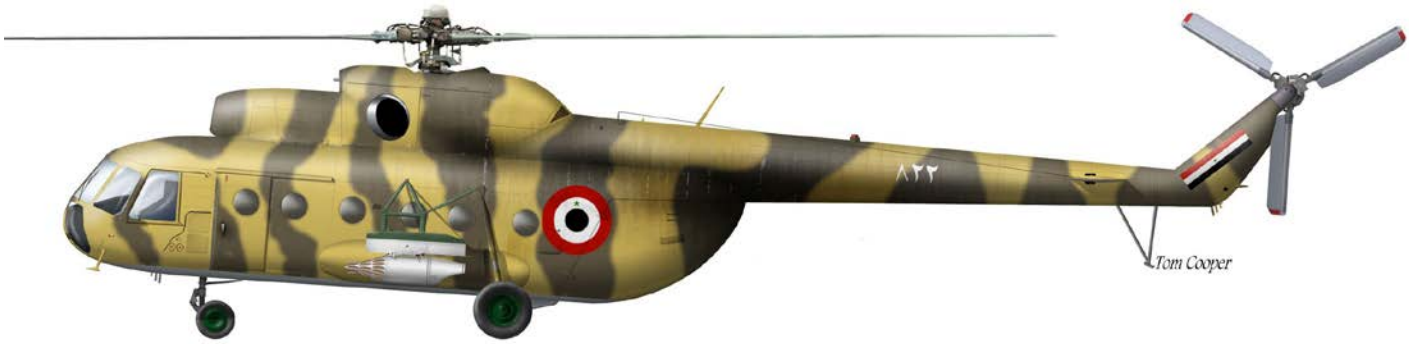
Sometime in 1989 or early 1990, South Yemen received a batch of between 12 and 14 Su-22M-4Ks. These arrived already camouflaged in the same colours and pattern as these examples of the same variant delivered to Afghanistan and Angola around the same time: in beige (BS381C/388), dark green and chocolate brown on top surfaces and sides, and light admiralty grey on undersurfaces. Due to the union of the two Yemens in 1990, they received only a tricolor on the rudder, and – as far as is currently known – no roundels at all. The 'bort number' (71 in this case) was applied in red. The aircraft is shown armed with B-8M pods for 80mm unguided rockets and carrying a RTB-1150drop tank: the latter were usually painted in dark brown overall. (Artwork by Tom Cooper)

While the first eight F-5Es delivered to North Yemen wore the better-known 'Asia Minor' camouflage pattern (which includes brown-green FS34079), the last four were painted in this unique pattern including dark sand (FS20400) and dark brown (FS30140) on top surfaces and sides, and grey (FS36622) on undersurfaces. Early on during their service in North Yemen, they wore YARAF markings, but the green star was removed shortly after their arrival. Generally equipped to fairly simple standard, they are known to have been delivered together with a batch of AIM-9 Sidewinder air-to-air missiles of unknown variant: illustrated is the AIM-9J, but it is possible that North Yemen received older AIM-9Bs or AIM-9Es instead. (Artwork by Tom Cooper)



North Yemeni Su-22Ms were painted in a wide range of different camouflage patterns, most of which consisted of dark brown (BS381C/411 or 450, similar to F20095), light green (unknown shade) and olive green (BS381C/298, similar to FS34098) on top surfaces and sides and light admiralty grey on undersurfaces. Contrary to examples operated by the PDRYAF, they received small roundels on the rear fuselage – including a green star that was in use until 1990. Their serials were in the range 401 to at least 416. This example (serial 412) is known to have survived the 1994 Civil War. It is illustrated armed with RBK-250 cluster bomb units and carrying a RTB-800 drop tank with a capacity of 800 litres. (Artwork by Tom Cooper)

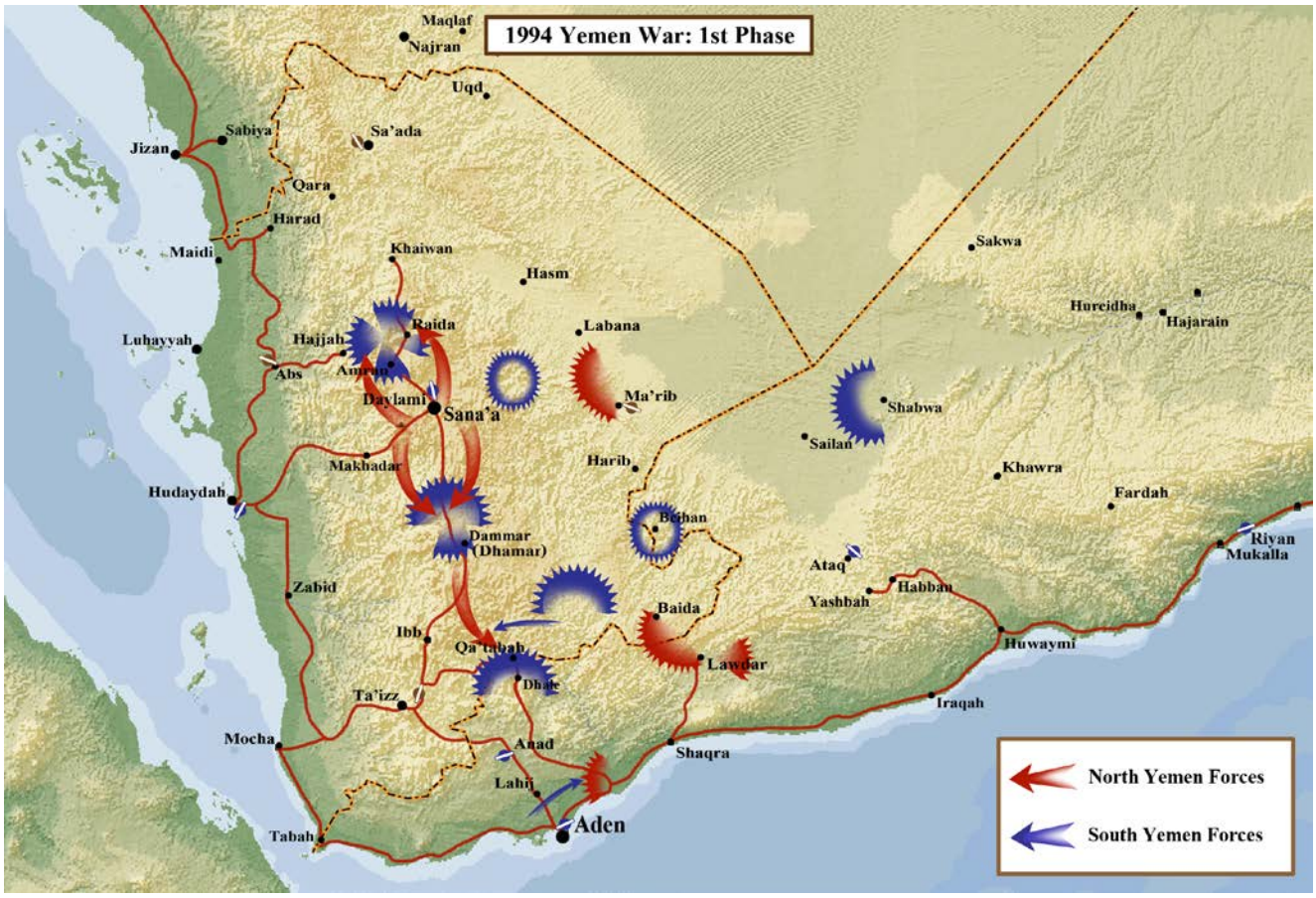
North Yemen received a total of 60 MiG-21bis and MiG-21UMs, delivered in two batches – each of which was camouflaged in different fashion. Illustrated here is an example from the first batch, which arrived already painted in the same pattern as applied on numerous MiG-21bis' exported to different African countries (including Congo-Brazzaville and Mali) in the early 1980s. This consisted of dark beige, light grey-green and dark green on top surfaces and light admiralty grey on undersurfaces. Both batches received big white serials (starting with a '2'), applied in Arabic digits. Centre inset is what was probably an ex-PDRYAF MiG-21bis captured in 1994, probably overpainted at a later date. (Artwork by Tom Cooper)



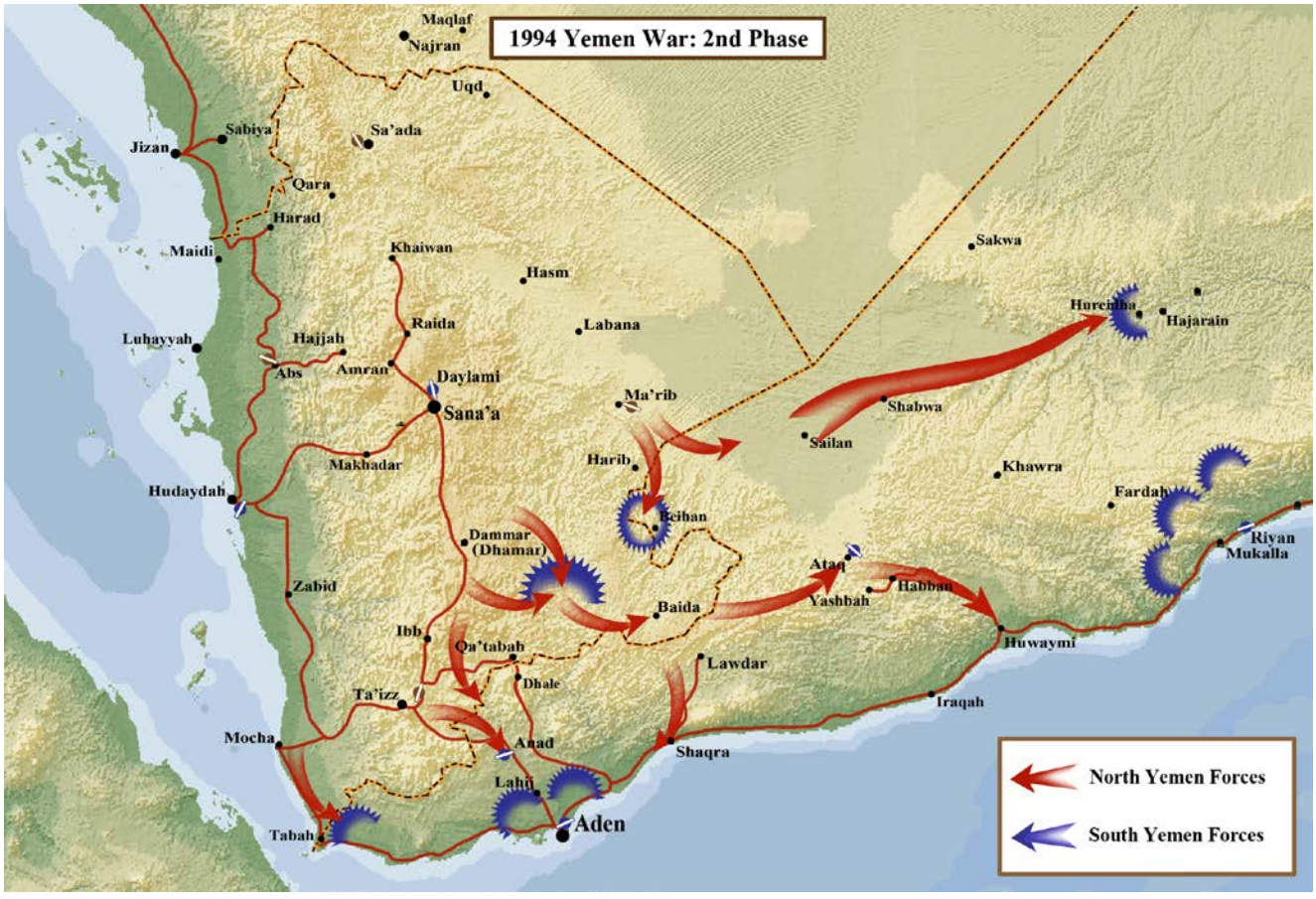
The YARAF received 18-20 Mi-8s in the early 1980s, all of which were operated by the 128th Helicopter Squadron from Daylami AB. Most were painted in camouflage patterns like this one, consisting of beige and chocolate brown on top surfaces and sides. This pattern was usually wrapped around the bottom of the cabin, but several helicopters – including the one with serial number 822, illustrated here – had the bottom of their cabins painted in light grey instead. All wore three-digit serials starting with an an '8', applied in white on the boom. North and South Yemeni Mi-8s were often used not only for assault and transport purposes, but for ground attacks, usually armed with three UB-32-57 pods for 57mm unguided rockets. (Artwork by Tom Cooper)

Due to high demand for attack helicopters in Afghanistan, the Soviet military was short of Mil Mi-24 helicopter gunships for most of the 1980s. When Moscow finally agreed to supply a batch of these to South Yemen, it had to use 16 second-hand Mi-24As: several of those delivered to Aden in 1985 and 1986 wore clear signs of repairs after suffering various degrees of combat damage in Afghanistan. All were painted in the 'sand and spinach' camouflage pattern, consisting of beige and olive green, illustrated here. While national markings shown on this illustration are confirmed, none of their serials are known. In South Yemen, Mi-24As were operated by an unknown ('Attack') Helicopter Regiment: most were destroyed during the coup of 1986, relatively soon after their delivery, and only a handful remained in service to see some combat during the Civil War of 1994. (Artwork by Tom Cooper)

Probably the best-known ex-Moldovan MiG-29 that entered service with the PDRYAF was this former mount of the Soviet Navy's 86 Guards Interceptor Aviation Regiment (86. GIAP), itself a part of the 119th Naval Interceptor Division. Originally camouflaged in green, dark green and sand-brown on top surfaces, and light blue-grey on undersurfaces, it was oversprayed with a thin layer of green enamel before delivery to Yemen. In service with the PDRYAF, it received the serial number 41, but retained the 'Eagle with Sword' applied in yellow and brown between the cockpit and gun port. Wreckage of this aircraft was found at Aden AB in early July 1994. (Artwork by Tom Cooper)



Map describing major combat operations in the first phase of the Yemen Civil War, during the first half of May 1994. (Map by Tom Cooper)



Map describing major combat operations during the second and third phases of the Yemen Civil War, in the second half of May and early June 1994. (Map by Tom Cooper)

Another of the early North Yemeni MiG-17s was this example, serial number 17, wearing a badly worn-out coat of disruptive camouflage colours. Note one of two 23mm cannons, lowered to the ground for maintenance, in front of the nose. (Pit Weinert Collection)

A row of MiG-17s (and a few Il-28s, in the background) of the YARAF at Daylami AB after the ceasefire of April 1970, by when all were camouflaged in unknown colours. The aircraft in the foreground is wearing the serial number 29. (Pit Weinert Collection)

Probably the most unusually camouflaged of all early North Yemeni MiG-17s was this example, serial number 53. TThe colour on most of the front fuselage was probably that introduced by Syria around the same time, namely blue-green. (Pit Weinert Collection)

A poor but nevertheless interesting photograph of a group of North Yemeni pilots and their Soviet advisors in front of a PDRYAF Il-28 from sometime in the early 1970s. The aircraft behind them certainly received a coat of disruptive camouflage colours, but exact details of these are unknown. (Pit Weinert Collection)

of left-wing officers were arrested and accused of conspiring with possible Soviet and Iraqi support. Fearing another coup attempt, Amri then reorganised the military so that control over combat units was exercised by corps commanders for infantry, armour and artillery – irrespectively of their geographic area of responsibility. He also created the General Reserve Force under the command of Colonel Ibrahim al-Hamidi, and The Republican Guard, both of which consisted of about 7,000 troops of acknowledged loyalty to the government.[2]

Personnel-related problems persisted, nevertheless. In January 1971, a plot was uncovered – supposedly organised by Soviet advisors – under which several officers intended to defect with their aircraft to Aden. That such reports might have had some substance is obvious from one of the cases mentioned in the next sub-chapter. In another attempt to improve the situation, President Iryani visited Moscow and requested additional military aid, including deliveries of MiG-17 fighter-bombers, in December 1971. However, the Soviets also refused. The only improvement the North Yemeni air force experienced during this period was the expansion of ad-Daylami AB, undertaken during the same year. In February 1972, Major Ali Salleh ash-Shaybah – an inexperienced but trusted officer – was appointed the Commander of the YARAF, with orders to improve the morale of the force. His and further attempts by President Iryani to secure additional arms from abroad had at least limited success: North Yemen obtained two Agusta-Bell AB.204Bs and two AB.205 helicopters from Italy, while Saudi Arabia donated two French-made Aerospatiale SA.316B Alouette III helicopters. However,

One of two French-made Alouette III helicopters donated to North Yemen by Saudi Arabia in 1972. As far as is known, both were painted yellow overall. This example was serialled as 153. (Pit Weinert Collection)

A MiG-17 as seen at Daylami AB, after the case-fire of April 1970. By the time, the aircraft received a disruptive camouflage pattern, probably applied in colours supplied by Syrians. For specific details about its camouflage and different markings, see page 3 of the colour section. (Pit Weinert Collection)

because of the centralised command system – which dictated that all combat operations were controlled by the Armed Forces Supreme Command (supposedly in the interest of better coordination with ground forces) – Shaybah had next to no executive control over the force. Unsurprisingly, another defection plot resulted in 11 pilots escaping from Hodeida to the PDRY in March 1972, although without their aircraft. As a consequence, all additional training of YARAF personnel in the USSR was suspended in May 1972.[3]

Finding no other foreign supporter, the government in Sana'a eventually established links to Libya, which at that time was involved in attempts to establish a union with Egypt and Syria. Because of the re-deployment of some Egyptian units to bases in that country, the Libyans came in temporary possession of several Il-28s, of which four were donated to North Yemen in October 1972. While the arrival of these light bombers bolstered the YARAF fleet, that was meanwhile down to eight MiG-17s, one MiG-15UTI, 11 Il-28s, three An-2s and two Il-14s, for all practical purposes the air force continued to vegetate. Consisting of about 700 officers and other ranks (including 30 pilots), it was grounded by lack of spares and growing corruption. Due to lack of flying and training, only about half of its pilots were considered operationally qualified by the end of 1972.[4]

SOUTH YEMEN'S GROWTH

In June 1969, a radical Marxist wing of the NLF gained power in Aden and on 1 December 1970, the country was renamed the People's Democratic Republic of Yemen (PDRY). The PRYAF was redesignated as the People's Democratic Republic of Yemen Air Force (PDRYAF). Subsequently, all political parties were amalgamated into the NLF – renamed the United National Front (UNF) – or banned, while the government of the PDRY established very close ties to Moscow. Curious to obtain a foothold from which it could control and influence developments in the Red Sea, Arabian Sea and Horn of Africa, as well as enhance its capacity to monitor US and allied activities in the Middle East and bolster its own military presence, the Soviet Union grabbed the opportunity. While officially befriending both governments in Sana'a and Aden, Moscow subsequently took over the duty of assisting the military build-up of South Yemen only.[5]

In the PDRY, this process came forward at a more significant rate than in North Yemen – not only because of the better training local armed forces had earlier received from the British, but also

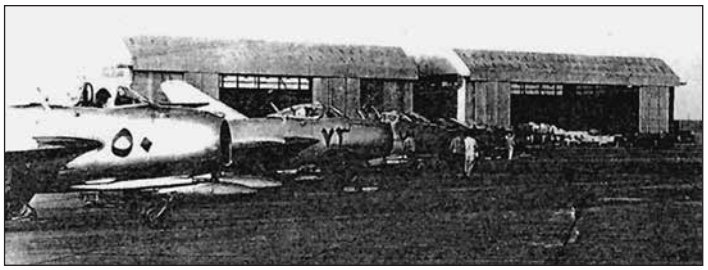
because the UNF was ideologically opposed to tribalism and did its best to eradicate it. The build-up was further bolstered by the arrival of Soviet advisors in 1968. As relations with Moscow grew ever stronger, a much larger Soviet Military Advisory Group – headquartered in Aden and commanded by a major general – was established in early 1969. One Soviet colonel took over command of the PDRYAF's first combat unit equipped with 10 MiG-17Fs, delivered in January 1969, while another assumed command over ground forces. The latter reorganised and expanded available forces into six brigades of three battalions each (based in Aden, Beihan al-Qisab, Mukayris, Anad, al-Abr and Mukalla), a signal battalion, training battalion, military academy, military police unit and several minor support units. Furthermore, the Soviets became instrumental in the development of an effective intelligence system based on human and technical resources, and the establishment of an effective logistics system capable of supporting mobile operations, and they also provided advanced training, including for counter-insurgency (COIN) operations.[6]

THE WUDAY'AH INCIDENT

The Soviet support emboldened the government in Aden, which was meanwhile in dispute with Saudi Arabia over their mutual border. On 26 November 1969, two infantry battalions of the South Yemeni armed forces, supported by armoured cars, assaulted the border post at Wuday'ah, killing several of the 26-man Frontier Force garrison and capturing 12 others, including their commander.

The Saudis hastily deployed ground forces to the area, and launched their first counter-attack late the same evening, but without success. Early the next morning, three MiG-17Fs of the PDRYAF strafed the Saudi positions. The appearance of the MiGs caused alarm in Riyadh, and prompted the government to order deployment of significant reinforcements to the Sharawra area, about 50km north of Wuday'ah. Furthermore, eight F-86 Sabres, at least two Hunters and four Lightnings were forward deployed to Khamis Mushayt air base by 30 November. These were in action the same day, strafing and rocketing South Yemenis and prompting them to call for help from their own air force. While Aden subsequently claimed that its MiG-17s had "repelled the Saudi attack", no details about any air combats were ever released. The PDRYAF is known to have had only two of its own and one Syrian expatriate pilots qualified to fly these jets at the time, and no radar coverage of the combat zone. Although the Soviet colonel who commanded the air force is said to have flown several combat sorties, it is unlikely that these changed anything about the outcome of the action on the ground.

While the South Yemenis subsequently claimed to have shot down four Saudi fighter-bombers and two helicopters with ground fire, their military proved unable to withstand the Saudi onslaught, which reoccupied their border post by 30 November at a cost of at least 18 Saudi officers and other ranks killed or wounded. In the course of further skirmishes in the same area, the South Yemenis extracted limited revenge through shooting down a Saudi Lightning F.Mk 53, serial number 53-697, on 3 May 1970.[7]



Photographs of early South Yemeni MiG-17s are very rare: this one shows a row of them at the former RAF Khormaksar, then called Aden AB – all still in 'bare metal' overall. From left to right, the first three aircraft wore the serials 50, 73 and 71. (Pit Weinert Collection)

Soon after their arrival in South Yemen, most PDRYAF MiG-17s were camouflaged with unknown colours, and had their serials applied in white. Many received a big crest of the air force on the front fuselage. Visible on this still from a video are examples with the serials 26 and 24. (Pit Weinert Collection)

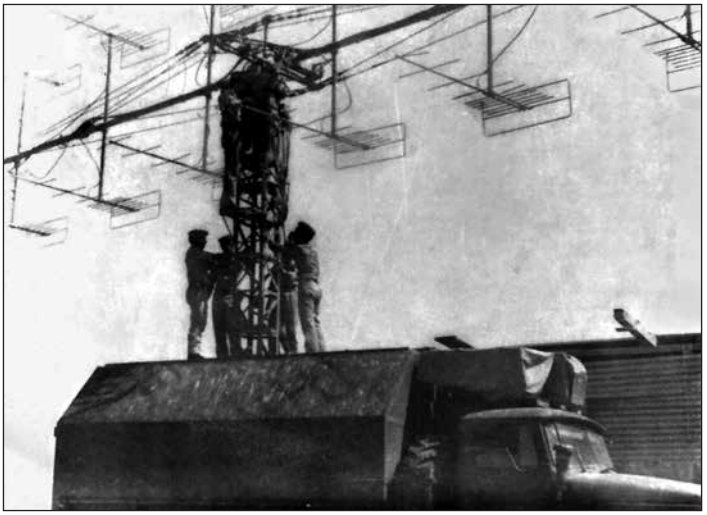
Drawing important lessons from this experience, the South Yemenis accelerated the build-up of the PDRYAF. For unclear reasons, the air force was formally re-established on 28 September 1971, and during November of the same year had its premier fighter unit – No. 5 Squadron – bolstered by the arrival of eight additional MiG-17s and the return of two large groups of pilots and ground personnel from training in the USSR. As of that time, it also had the Attack/Training squadron, that was still operating four Strikemasters and six Jet Provosts, and providing regular training for all fighter pilots. These two units held two MiGs and four Strikemasters on constant alert to make air strikes against dissident forces.[8]

By 1972, the PDRYAF had also received eight Mil Mi-8 and four Kamov Ka-26 helicopters, as well as four Il-28 bombers and eight An-24 and An-26 transports from the Soviet Union. Its total strength increased to about 235 officers and other ranks, including 20 of its own pilots. Foreign pilots included the Syrian expatriate and several members of the Popular Front for the Liberation of Palestine (PFLP), fresh from graduating at the Iraqi Air Force Academy. Support was provided by least 65 Soviet advisors, of whom 30 – largely technicians and weapons specialists – were with the MiG squadron and between 25-30 with the transport squadron.[9]

Table 4: PDRYAF Order of Battle, 1972

Unit	Base	Equipment	Remarks
CO PDRYAF Major Ahmad Salim Ubayd[12]			
Attack/Training Squadron	Aden	4 Strikemaster, 6 Jet Provost	4 aircraft on permanent alert
No 5 Fighter Squadron	Aden	13 MiG-17, 1 MiG-15UTI	2 MiGs on permanent alert
No. 22 Bomber Squadron	Aden	1 Il-28, 1 Il-28R, 2 Il-28U	
Transport Squadron	Aden	5 An-24, 2 C-47, 4-8 Mi-8, 2 Ka-26, 2 DHC-2	

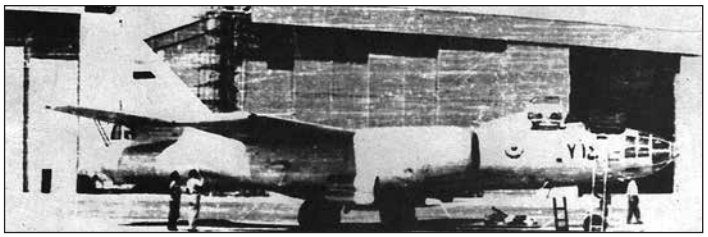
A still from a video showing a pilot embarking a MiG-17F with serial number 31. The PDRYAF crest applied in front of the serial is clearly visible, as is the radar range-finder installed on the top of the front fuselage. (Pit Weinert Collection)



One of first P-12 Yenisei (ASCC-code 'Spoon Rest') radars of the PDRYAF. At least four such sets were delivered by the USSR in 1971, and three units equipped with them became operational by the end of the same year. They had a maximum detection range of about 200km. (Pit Weinert Collection)

A major problem for the air force was the training of new pilots and other personnel: because no meaningful training facilities were existent, all related work had to be undertaken abroad. As of 1972, up to 50 South Yemenis were undergoing initial training in the USSR. Lack of equipment initially resulted in the PDRYAF lacking an integrated air defence system. However, the first two South Yemeni radar officers had completed training courses in the USSR in July 1971, and then worked very hard to form the nucleus of a radar unit. Equipped with mobile radar sets deployed at Beihan, Ataq and Riyan airfields, this was operational by the end of the same year.[10]

The ex-RAF Khormaksar air base, by now colloquially known as Aden, remained the centrepiece of the PDRYAF through this period. It was the home of the bomber squadron, a MiG-17-squadron, a Jet Provost squadron, the transport squadron (almost exclusively staffed by Soviets), an air base maintenance battalion, aircraft repair workshops and a training centre. The headquarters of the air force had been established at the nearby Camp Shahid Badr. Although its staff was very small, whenever there was an emergency, the PDRYAF's officers always established a Tactical Air Force Command, which had representatives deployed at the newly constructed Ataq and Riyan airfields, that closely cooperated with ground forces.[11]



South Yemen is known to have received only four Il-28s from the Soviet Union, of which just one was a 'vanilla' bomber variant, another an Il-28R (reconnaissance variant) and two were Il-28Us (training variants). As visible on this photograph, the sole bomber was left in bare metal overall and wore the serial number 714. (Pit Weinert Collection)

CONFRONTATION WITH OMAN

In late 1967, the newly established South Yemen began supporting the insurgency in neighbouring Oman. An uprising had erupted there in 1962, but developed rather slowly. Once the British were out of Aden, the PDRY allowed the People's Republic of China to use its territory to provide secure bases, arms and training to the Marxist insurgents of the Popular Front for the Liberation of the Occupied Arabian Gulf (PFLOAG, colloquially known as 'Adoo'). Bolstered by deliveries of superior firearms, the insurgents had brought most of Jebel Dhofar under their control by 1969 and began breaking up the traditional tribal structure. Alarmed by the sorry state of the 1,000-strong Omani armed forces, the British staged a coup against Sultan Sayd Ibn Taimur and replaced him with his son, Qaboos, on 23 July 1970. They also deployed a squadron of SAS to bolster the counterinsurgency operations, reinforced the Omani armed forces through secondment of additional officers from their own military and provision of advanced weaponry, and implemented a 'hearts and minds' campaign in the form of assisting civil development in coordination with military operations.

In a series of small-scale operations run through 1971 and early 1972, the SAS and revitalised Omani armed forces recovered most of the Jebel and secured a position overlooking one of the major insurgent supply lines. As far as can be said from interviews with former officers of the PDRYAF, this conflict saw no direct involvement of South Yemeni armed forces. However, in reaction to fighting moving closer to the border of South Yemen, and to British support for a local uprising of Mahara tribesmen in South Yemen ('Operation Dhib'), the PDRYAF did redeploy several of its MiG-17s to the small airfield constructed near al-Ghaidah, about 110km west of the border to Oman.[13]

This caused sufficient concern for the British to temporarily deploy six McDonnell Douglas Phantom FGR.Mk 2s at RAF Masirah – a major air base leased from Oman – in May 1972. Furthermore, in June and July, two Canberra PR.Mk 9s of No. 13 Squadron RAF flew several reconnaissance sorties, mostly along the coast of South Yemen, but sometimes well inside its airspace too. Lacking advanced equipment, the PDRYAF limited itself to a single overflight of the forward Omani air base at Salalah, in early July, by its sole Il-28R, but subsequently kept out of the fighting on the ground. This remained the case even when the British pilots serving with the Sultanate of Oman Air Force flew a series of fierce air strikes on some South Yemeni positions along the border.[14]

During the following months, Aden became preoccupied with developments further north, and thus found it more convenient to let the Chinese continue providing aid to the 'Adoo' on their own.

NUF WAR OF 1972

Dissident tribal forces that used South Yemen as a base for insurgent operations against the YAR became active in 1971. In reaction to one of their cross-border raids, in October 1971, about 3,000 North Yemeni troops conducted an apparently successful military campaign in southern part of the YAR. However, when a sizeable PDRY force composed of regular army and paramilitary units, supported by Strikemasters and Jet Provosts, entered the YAR at Balaq, and drove about 50km to rout a force of some 1,200 tribesmen later the same month, the North Yemeni Army remained idle. It proved incapable even of organizing logistics for its units in that part of the country, nevermind conducting effective military operations. The PDRY offensive took many foreign observers by surprise, because the still young military of South Yemen – commanded by Prime Minister, Minister of Defence and Commander-in-Chief Muhammad Hasani – clearly demonstrated skilled and imaginative planning, and the capability to run effective, coordinated, joint military operations.[15]

During the following months, the extreme leftist political orientation of the PDRY government became a thorn in the side of all of their neighbours and most of their foreign backers, even Libya. Following an incident in which 65 North Yemeni tribal leaders were killed in February 1972, Sana'a put all the blame on Aden and Colonel Amri boasted in public that North Yemen would "recover" the northern part of the Harib Governorate from South Yemen. However, fully aware of its military weakness, he proved reluctant to launch an invasion. Instead, it took Saudi Arabian and Libyan pressure – indeed, an outright ultimatum – for the National Unity Front (NUF) – a fragile coalition of different political groups and exiled tribesmen from South Yemen, formed in emigration in 1970 – to do so.

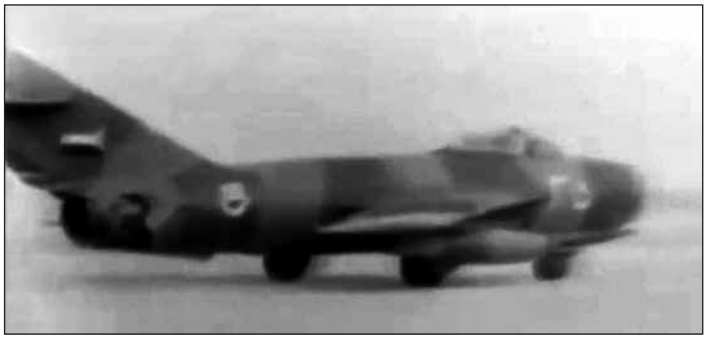
The NUF moved out of their bases in the YAR and, using Saladin armoured cars provided by Libya and artillery donated by the North Yemeni military, invaded the PDRY in the Qa'tabah area in September 1972. Intelligence about a concentration of about 10,000 North Yemeni troops and up to 100,000 tribesmen in the same area convinced the PDRY government that this was the forerunner for a major invasion. To a certain degree, this was correct: what prevented the North Yemeni military from launching an all-out attack was a combination of poor planning, lack of ammunition and spares, and poor control over local tribes. Seriously concerned, the Southerners rushed a number of battalions based along the coast of the Arabian Sea all the way to the border with the YAR, while MiG-17s and Il-28s of the PDRYAF bombed military positions in Qa'tabah and several nearby villages for four days.

The air strikes reached their peak around 30 September, when a formation of eight MiG-17s hit Qa'tabah and artillery positions at Jebel Jamima further east, killing thirteen 13 North Yemeni civilians and one soldier. In return, the Northerners claimed two MiGs as shot down. Actually, only the fighter-bomber flown by Hussein Awad Barry al-Jafeem was hit: he attempted to nurse his stricken aircraft back to Aden, but ith burst into flames and crashed somewhere in Dali Province, killing the pilot.[16]

Although the Northerners eventually claimed the downing of at least three MiGs and Il-28s of the PDRYAF, and the destruction of numerous tanks, a combination of air strikes and counter-attacks by reinforced South Yemeni ground forces not only mauled the invaders, causing them over 200 casualties, but recovered all of the lost territory. For a while, the government in Sana'a was concerned about a possible counter-invasion and began publishing alarming reports about attacks on mosques and hospitals. What prevented a bigger war was President Iryani's intervention: he opened negotiations with Aden, and achieved not only a ceasefire, but even an agreement about mutual withdrawal, reopening of the border and for the two governments to work toward unity.[17]

A group of PDRYAF pilots in early 1973. Note the MiG-17F behind them, apparently painted in grey overall and wearing the serial number 01 – applied in white or yellow and outlined in white. (Pit Weinert Collection)

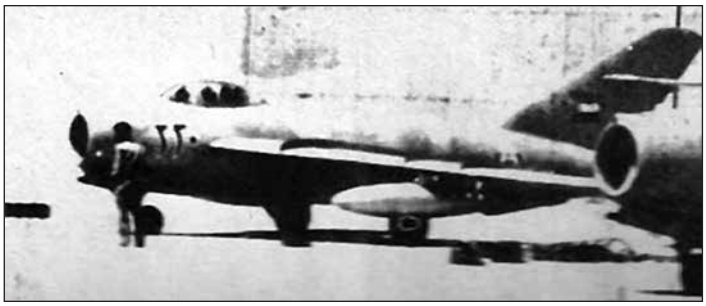
Pilots of No. 5 Fighter Squadron PDRYAF with two of their Soviet advisors in 1973, in front of that unit's sole MiG-15UTI, apparently wearing the serial number 51. (Pit Weinert Collection)



Another still from a video showing one of the PDRYAF's MiG-17Fs, here with the serial number 25. The PDRYAF is known to have lost one aircraft of this type during the NUF War in 1972: its pilot, Hussein Awad Barry al-Jafeem, was killed. (Pit Weinert Collection)

During this short war, the military leadership of the PDRY had shown imagination and resourcefulness, the capability to run well-planned joint operations and to deploy sizeable forces rapidly to widely separated trouble spots. Despite considerable strain imposed by combat operations, no serious breakdowns in the military's logistics system occurred. Similarly, although lacking a network of forward air controllers – i.e., despite flying most of its attack sorties on orders issued before take-off – the PDRYAF proved capable of flying effective ground-attack sorties and providing ground units with supplies and equipment from the air.

On the contrary, the YAR military came away a clear second-best.



Later batches of MiG-17Fs delivered to South Yemen were apparently painted in grey overall, and some aircraft received three-digit serials. Clearly readable on this photograph taken at Aden AB is 220, apparently applied in black and outlined in white. Visible to the right is the nose of the serial number 205. (Pit Weinert Collection)

Unusually for an army dominated by Zaidis, its units predominantly staffed by Shafis fought in a far more effective and courageous fashion.[18] This prompted the government to place increased trust in such formations, although they were staffed by what was the minority of the population in North Yemen. Unsurprisingly considering such experiences, President Iryani introduced a number of reforms aimed at enabling him to take stronger and more decisive political decisions, and also replaced Colonel Amri with Colonel Muhammad al-Iryani, his nephew.[19]

For the YARAF, the only positive experience related to this short conflict was the Egyptian decision to reinforce it through the donation of five MiG-17s and four Il-28s. Flown by Egyptian pilots, these arrived via Jeddah in Saudi Arabia on 1 and 2 October 1972, together with a shipment of spare parts. To the disappointment of the North Yemenis, however, their pilots were not granted permission to fly combat sorties against the PDRY: only to help local ground crews to repair some of the YARAF's fleet of combat aircraft, which was meanwhile down to only two operational Il-28s and four MiG-17s.[20]

THE RISE OF COLONEL SALEH

During the following years and in the light of increasing tensions between Aden and Riyadh, the government in Sana'a launched a process of rapprochement with Saudi Arabia and Western powers – including the USA, to which it re-established diplomatic relations in 1972. To some, this process came forward at much too slow a pace, while to others it was a step in the wrong direction: in June 1974, leftist Colonel al-Hamidi launched a bloodless coup in Sana'a. He forced Iryani's government into exile, suspended the constitution and declared himself President. Often described as an 'idealist', Hamidi fought corruption, reorganised the economy, developed infrastructure, agriculture and local manufacturing, but also calmed down tribal feuds and other regional conflicts. Preoccupied with internal issues, he remained little-known outside Yemen before 1975, when his government – obviously encouraged by contemporary deliveries of such aircraft to Iran and Saudi Arabia – approached Washington with a request for Northrop F-5E Tiger II fighter-bombers. The administration of US President Gerald Ford indicated it was prepared to provide equipment for ground forces via Saudi Arabia, but related negotiations were to last for years, mainly due to a number of Saudi interventions.[21]

While Hamidi's period of rule is often recalled as one of unprecedented economic development of Yemen, he was never to see the realisation of the F-5-deal: considered 'too far left' by many – especially Saudis – he was assassinated by conservatives on 11 October 1977 and replaced by his deputy, Colonel Ahmad Ibn Hussein al-Ghashimi. Ghashimi's tenure was even shorter: he was assassinated on 24 June 1978 by a briefcase bomb carried by a representative of the PDRY he was about to meet. On the same day, Colonel Ali Abdullah Saleh al-Sanhani al-Humairi was appointed as a member of the four-man provisional presidency council.

Saleh's climb to power began in the early 1970s and was closely related to Hamidi's centralising initiative that reduced the number of tribalists in order to build a modern army primarily loyal to the state. While commanding the Ta'izz-based 1st Mechanised Brigade, he socialised with prominent businessmen in the area and began extracting cuts on goods smuggled along the road from the port of Mocha. Following Ghashmi's assassination, some of the businessmen, afraid of a possible popular uprising in Ta'izz, supported by communists from South Yemen, suggested him for president. With the Saudis favouring Saleh as a supposed hedge against radical leftists – primarily because of his close friendship with Colonel Ali Mohsen, renowned for his anti-leftist positions – the way was suddenly open for a climb to the highest position.[22]

Saleh proved adept at outmanoeuvring and co-opting all sorts of real and potential opponents. He secured his position through placing his seven brothers, as well as numerous members of the Sanhan tribe – a branch of the Bakil tribal confederation – into key positions. Within a relatively short period of time, these controlled nearly 80 percent of the crucial security positions. With all this support at his back, he was appointed Chief-of-Staff and Commander-in-Chief of the armed forces, while the Yemeni Parliament elected him President of the Yemen Arab Republic on 17 July 1978.[23]

CUBAN ADVISORS

Meanwhile, South Yemen went through several years of political stability and continuous military build-up. By the end of 1973, a squadron each of MiG-17Fs, MiG-21MFs and Il-28s was operational. The MiG-21s arrived together with R-3S (ASCC-code 'AA-2 Atoll') guided air-to-air missiles – the first such weapons in Yemen's arsenal. However, contrary to usual Western reports, there is no evidence for any presence of 12 Sukhoi Su-20s or Su-20Ms in South Yemen at that time. While a group of about 100 Cubans advisors was present, only about 20 were assigned to the PDRYAF. Led by Lieutenant Colonel Ruben Iterian, they supported the conversion of South Yemeni personnel to MiG-21MFs. The number of these grew to more than 40 in 1974, by when a regiment composed of two squadrons was established. Once their students were ready for advanced training, the Cubans trained them in ground-controlled intercept, ground attack and even night flying.[24]

The PDRYAF's diminutive Il-28-fleet suffered a major blow on 17 February 1975 when the aircraft crewed by pilot Abdul Hameed, navigator Abda Mohammed and gunner Abdullah crashed during a training flight, killing all three. Over the following two years, the remaining three bombers were replaced by about a dozen Su-22s delivered from the USSR.

By 1977, the PDRYAF reached a total strength of some 1,000 officers and other ranks, including 80 jet-qualified pilots. Following years in which it had more equipment than it could effectively absorb, it began placing the emphasis on integration of arms and development of support infrastructure with the acquisition of additional equipment. Not only were most of the former MiG-17-pilots converted to Su-22s, but meteorological stations were also established at Aden AB and airfields at Ryan and Socotra, supported by several external observation posts. The sole new flying unit established for the next few years became the second squadron equipped with Mi-8 assault helicopters, based at Aden

One of about 12 Su-22s that South Yemen received from around 1976, seen at Aden AB. The aircraft was camouflaged in dark earth and dark brown on top surfaces and sides, while the serial 29 was applied in red. (Pit Weinert Collection)

Apparently taken after some sort of a mishap, this photograph shows the MiG-17F with serial number 401. The type was withdrawn from service around 1978 after 12 were donated to Ethiopia. (Pit Weinter Collection)

AB. Nevertheless, ground-based air defences were significantly strengthened through the addition of five Soviet-supplied S-75 Dvina (ASCC-code 'SA-2 Guideline') SAM-systems and 136 V-755 missiles.[25]

In early 1977, when the former French Territory of Afars and Issas was released into independence as Djibouti, South Yemen reacted by announcing an extension of its territorial waters out to 50 nautical miles off the coast, well into the Bab al-Mandeb Strait. Already concerned about Somali threats against the new nation, France deployed a naval task force centred around the aircraft carrier *Clemenceau* (R98) into the area in April 1977. Including squadron 17F that operated Dassault Etendard IV fighter-bombers and 12F that flew Vought F-8E(FN) Crusader interceptors, this was responsible for protecting the airspace of the new nation.

On the morning of 7 May 1977, six Etendards and two Crusaders were catapulted from *Clemenceau* for an air defence exercise. As the two interceptor pilots set up their part of the exercise, they were 'bounced' by a pair of PDRYAF MiG-21s, armed with air-to-air missiles, which flashed by and engaged their afterburners. Undeterred, the French outmanoeuvred their opponents and took positions behind one of them. Ramon Josa, one of the French pilots, targeted the South Yemeni with his AIM-9 Sidewinder air-to-air missile and requested permission to open fire. However, not keen to cause a major international incident, the French commanders ordered him to disengage and return to *Clemenceau*.[26]

Several months later, Cuban influence was strongly influential in the PDRY's military becoming involved in the Ogaden War between Ethiopia and Somalia. Not only was the entire team of Cubans assigned to the PDRYAF redeployed to Ethiopia in September 1977, but 12 or 13 MiG-17Fs and two MiG-15UTIs with pilots and ground personnel of No. 5 Fighter-Bomber Squadron PDRYAF, and two armoured battalions of the army equipped with T-34/85 tanks, participated in the war. Another contingent of South Yemeni was deployed in Ethiopia in early 1978: one of them, Shawgi Hassan el-Khatib, was shot down by Somali air defences over Agordat on 15 February of that year, while flying a MiG-21MF. The port of Aden acted as a staging point for Soviet advisors (and their families) evacuated from Somalia in November 1977: many of these were almost immediately rerouted to Ethiopia.[27]

YEMENITE WAR OF 1979

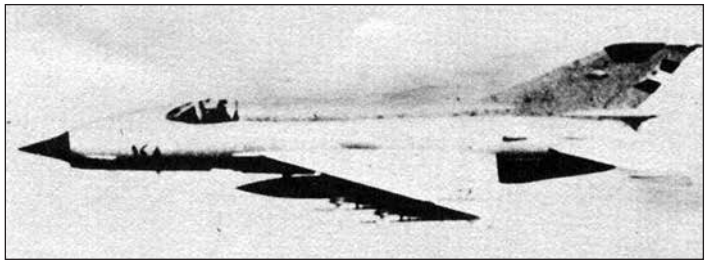
A major power struggle erupted in the PDRY in June 1978 between two different factions of the UNF. This culminated in two days of bitter fighting in Aden, after which President Salim Rubayyi Ali was executed and Abd al-Fatah Ismail emerged as a new strongman. That Ismail's policies closely followed the Soviet model became obvious when he renamed the NUF the Yemen Socialist Party (YSP, in December of the same year. Keen to impose his 'progressive' ideology upon his north-western neighbour, Ismail relaunched attempts to unite the two Yemens through negotiations. When these failed, he ordered the insurgents of the National Democratic Front (NDF) – meanwhile reinforced by supporters of assassinated president Hamidi – to infiltrate North Yemen, and deployed three brigades of the Army along the border.[28]

The following war was preceeded by some skirmishing that involved both air forces. The South Yemenis claimed two YARAF MiG-17s as shot down by SA-7 man-portable air defence systems (MANPADs) on the morning of 25 February 1979. Actually, one of the missiles proximity-fused near the tailpipe, but the pilot nursed his badly damaged aircraft all the way back to ad-Daylami AB, where it was subsequently repaired.[29]

On 28 February, the PDRY launched an invasion of the YAR. Spearheaded by PDRYAF MiG-21s and Su-22s that were forward deployed at Anad AB, this operation developed at a very quick pace. The air force opened its participation in the war on the morning of 28 February by bombing the Ta'izz airfield, where up to six MiGs were claimed as destroyed on the ground.

Although vastly outnumbering Southern forces overall, the Northerners were not only taken by surprise, but also outnumbered and overwhelmed within the theatre of operations. Exposed to continuous air strikes, artillery barrages and armoured assaults, they fell back to entrench themselves on the approaches to Ta'izz and Baida. When the Northerners bolstered air defences and these shot down two PDYAF Su-22s (both pilots ejected safely and were captured), the Southerners launched a well-orchestrated campaign against major air defence positions and knocked out most of these. Furthermore, patrolling activity by PDRYAF MiG-21s resulted in the downing of at least three MiG-17s, and otherwise prevented any YAF (Yeman Air Force) aircraft from entering the combat zone. The Southerners thus not only captured a number of dominating mountain peaks but were able to advance deep into the YAR and besiege Baida and then Ta'izz. A mechanised brigade of the North Yemeni Army, deployed from Sana'a in the direction of the combat zone, was subjected to air strikes and then successive barrages of BM-21 MRLS', and stopped with a loss of up to 30 main battle tanks.

Satisfied with their success, the Southerners then settled down while politicians opened negotiations. The fighting went on for



A rare photograph of a PDRYAF MiG-21MF, as intercepted by USN fighters off the coast of South Yemen in the early 1980s. While camouflaged in grey overall, its fin-flash is clearly showing Cuban influence. The serial number – 148 – was applied in red. (Tom Cooper Collection)

A South Yemeni pilot disembarking the MiG-21MF with serial number 126. Note the camouflage pattern, almost certainly consisting of beige and olive green on top surfaces and sides, and light admiralty grey on undersurfaces. (Pit Weinert Collection)

several weeks, with Saleh's army never managing to concentrate enough forces to launch a serious counter-attack, nor to find the necessary space to manoeuvre, and the YARAF proving unable to challenge the PDRYAF's aerial dominance.

Negotiations in Kuwait – mediated by the Soviet Union and Syria – ended hostilities on 20 March 1979. According to official figures, by then North Yemen had lost 576 ground troops killed in action and 824 taken prisoner (including one MiG-17-pilot), while South Yemen lost 412 troops killed, with two pilots and 125 officers and other ranks of its ground forces captured. The short conflict left the YARAF in a shattered condition: nearly all of its remaining MiG-17s were either shot down or destroyed on the ground, and there were only six pilots and 23 ground personnel qualified to fly and maintain fighter-bombers.[30]

BETWEEN THE EAST AND WEST

Concerned by the clear-cut defeat of the Yemen Arab Republic, Saudi Arabia and the USA rushed to Saleh's aid. In March 1979, Riyadh and Washington arranged a comprehensive arms deal worth $390 million, under which the RSAF was granted permission to transfer various surplus weapons – including four Northrop F-5B

In 1982, South Yemen received its first batch of Su-22M-3s. These arrived together with AS-9 anti-radar missiles – the first guided air-to-surface weapons in all of Yemen. The example visible on this still from a video wore the serial number 47, applied in red. At the time, this was the most powerful strike fighter on the entire Arabian peninsula. (Pit Weinert Collection)

In front of one of the big hangars at Aden AB is a PDRYAF Su-22M-3 with some of its assorted weaponry, including R-3S (AA-2 Atoll) air-to-air missiles on a trolley and UB-16-57 pods for 68mm unguided rockets. (Pit Weinert Collection)

Freedom Fighter conversion trainers – to North Yemen, and which financed procurement of 12 Northrop F-5E Tiger IIs, two C-130H Hercules transports and 302 AIM-9 Sidewinder air-to-air missiles from the USA.[31]

Saudi financial aid enabled Saleh to also improve ties to Moscow, and in November 1979 he concluded an arms deal with the USSR, worth an estimated $700 million. This included orders for 60 MiG-21bis's, 14 Su-22Ms, 18 Mi-8s, three Antonov An-24s and three An-26s, 12 S-75M Volga and four S-75M2 Volkhov (ASCC-code 'SA-2 Guideline') SAM-systems with a total of 752 V-755 missiles, and 12 launchers for R-65 Luna-M rockets (ASCC-code 'FROG-7'). These arrived accompanied by advisors and technicians who helped to return a number of MiG-15s, MiG-17s and Il-28s to flyable condition. Furthermore, together with Su-22s, the USSR delivered the first batch of much-improved R-13M (ASCC-code 'AA-2C Atoll') guided air-to-air missiles.[32]

In South Yemen, the government of President Ismail was also bolstered. Not only did the Soviets hurriedly deliver six additional MiG-21s to reinforce the PDRYAF, but they also redeployed some

Table 5: Task Forces of the Republic of China (Taiwan) Air Force in North Yemen and their Commanders[35]			
Task Force	**Assignment Date**	**Head of the ROC Military Liaison Office in Saudi Arabia**	**Head of ROCAF Task Force in North Yemen**
1	March 1979	Col Liou Shu-Wun (Liu Shuwen)	Lt Col Chen Meng-sian (Chen Menngxian)
2	March 1980	Col Jhuang Yan-ming (Zhang Yanming)	Lt Col Huang Si-sheng (Huang Xisheng)
3	March 1981	Col Lu Zong-shun (Lu Zongshun)	Lt Col Kuan Zih-chong (Kuang Zichong)
4	March 1982	Col Shi Liou-fang (Shi Liufang)	Lt Col Wang Cyuan-sin (Wang Quanxin)
5	March 1983	Col Lin Long-sian (Lin Longxian)	Lt Col Jhang Guo-jheng (Zhang Gouzheng)
6	March 1984	Col Cai Cheng-syong (Cai Shengxiong)	Lt Col Li Da-ming (Li Daming)
7	March 1985	Col Huang She-yu (Huang Sheyu)	Lt Col Jhang An-ci (Zhang Anqi)
8	March 1986	Col Huang Wun-sin (Huang Wenxin)	Lt Col Cai Han-ming (Cai Hanming)
9	March 1987	Col Yan Jia-sheng (Yan Jiasheng)	Lt Col Li Ying-yi (Li Yingyi)
10	March 1988	Col Tang Tai-lin (Tang Tailin)	Lt Col Meng You-yu (Meng Youyu)
11	March 1989	Col Yuan Zih-jing (Yuan Zijing)	Lt Col Yang Shou-ren (Yang Shouren)
12	March 1990	Col Cai Jhu-you (Cai Zhuyou)	Lt Col Jhou Shao-long (Zhou Shalong)

of their and Cuban advisors from Ethiopia to South Yemen in March 1979.

In October the same year, the PDRY signed a 20-year treaty of friendship with the USSR and placed substantial orders for additional equipment. During the same year, Aden received its first R-17/R-300 Elbrus (ASCC-code 'SS-1C Scud-B') and Luna-M ('FROG-7') ballistic missiles, enough T-62 and T-54/55 tanks to establish a three-battalion armoured brigade, and enough M-46 field guns and BM-21 MRLS's to establish an independent artillery brigade. Soviet military advisory presence in South Yemen climbed to more than 1,000, that of the Cubans to about 500, and over 1,000 South Yemeni military personnel were sent to the USSR for training. The most important reinforcement for the PDRYAF during this period of time consisted of the first of an eventual 40 Sukhoi Su-22Ms, Su-22M-3s and Su-22UM-3Ks delivered by 1986. The big and powerful Sukhois arrived together with R-13M air-to-air missiles, but also an assortment of guided air-to-ground missiles – the first ever arms of this kind in the Yemeni arsenal. Among these were AS-9 anti-radar missiles. The air force also received at least three SA-2, two 2K12 (ASCC-code 'SA-6') and several 9K31 (ASCC-code 'SA-9') mobile SAM batteries, and two dozen ZSU-23-4 self-propelled anti-aircraft guns for air defence of its bases – including the newly constructed Anad AB, north of Aden.[33]

TAIWANESE DEPLOYMENT

With US President Jimmy Carter authorising the first presidential waiver ever used to send arms to a purchaser abroad without full review by the US Congress, F-5s began arriving in North Yemen well before any local pilots or ground personnel could be retrained to operate them. The accelerated delivery touched off a scramble by the Saudis to recruit foreign pilots to man these aircraft and train Yemenis in their use. Eventually, a solution was found through an agreement with the Republic of China (Taiwan), the government of which was not only renowned for its anti-Communist stance, but had an air force which had extensive experience in operating F-5s.

Not only did 16 F-5s arrive at Daylami air base by the end of 1979, but also a team of 80 Taiwanese pilots and ground personnel, led by Lieutenant Colonel Chen Meng-sian. They entered service with 112th Fighter Squadron (also known as the 'Desert Squadron').[34]

Organisation-wise, the Taiwanese deployment in North Yemen was subordinated to the Head of the Republic of China (Taiwan) military liaison office in Saudi Arabia. In turn, the officer in question – usually a full colonel – oversaw the work of a task force headquartered at Daylami AB. Details of the commanders in question and task forces deployed to North Yemen between 1979 and 1990 are provided in Table 5.

The Taiwanese personnel constituted the majority of 112th Squadron's personnel until 1985, by when enough Yemenis were trained on the F-5s to take over. Nevertheless, they remained in the country for six years longer: by 1990, nearly 700 Taiwanese officers and other ranks served in Yemen, and relations between the two air forces reached a point where Major General Tang Fei was appointed Deputy Operations of the YARAF.[36]

CHAOTIC EXPANSION

Contrary to what might have been expected, the delivery of new arms and equipment in the early 1980s placed the North Yemeni military in a precarious situation. Preoccupied with his own day-to-day survival, President Saleh Saleh exploited the situation to cement his power by concentrating all control of the military in the hands of officers from his family and the Bakil tribal confederation. The military thus turned into the centrepiece of his patronage network, in which personnel's loyalty to Saleh and membership of his tribe, or at least their regional background, were put above all other considerations. The heavily armed and well-trained forces of the Republican Guards were concentrated around Sana'a, where its commanders became involved in the construction industry and then the foreign trade sector, while enjoying tax-exempt status and having their own (undeclared) budget.[37]

To further secure his position, Saleh established three major security agencies – the National Security Organisation (NSO), Central Security Force (CSF) and National Organisation for General Intelligence and Military Security (NOGIMS), which not only controlled the work of each other, but also that of the entire military and state apparatus. Commanded by Saleh's relatives, they received most attention and funding, especially in the form of money channelled from private sources in Saudi Arabia.

The rest of the army was expanded into 11 brigades (two equipped with a mix of Soviet and US equipment, others wholly Soviet-equipped) four combat support brigades and one airborne brigade. Part of this force, dominated by Major General Ali Mohsen, consisted of staff drafted from the powerful Hashd tribal

A pre-delivery photograph of three F-5Es destined for North Yemen. The aircraft in the foreground was one of eight examples originally manufactured for Ethiopia and wore the standard camouflage pattern nicknamed 'lizzard'. The two in the rear belong to the batch of four aircraft that received a camouflage pattern unique to North Yemeni Tiger IIs. (Northrop)

In 1978, eight F-5Es originally manufactured for Ethiopia were embargoed. During peace negotiations between Egypt and Israel at Camp David, Washington offered 50 such aircraft to Egypt. This example received Egyptian national markings and the serial number 3503. With Cairo showing no interest, this and seven other Tiger IIs were eventually delivered to North Yemen instead, starting in 1980. (M. T. L. Collection)

confederation, but controlled by Sanhani officers. Their logistical support, maintenance, and command and control facilities remained poor and their officers grew ever more corrupt, resulting in the majority of the troops being undernourished, poorly trained and led.

Due to the lack of training and experience, foreign advisors became necessary for most maintenance work – especially so in the case of the YARAF, which recruited hundreds of new officers and other ranks within the shortest possible period of time, all of whom required years of training. When this caused an increase in the Soviet-administered programme, Saudi Arabia threatened to cut off all assistance. Left with no choice, Saleh moved the Soviets away from Sana'a and concentrated them around Hodeida, which significantly increased logistics-related issues. Still not entirely satisfied, the Saudis then began funding two fundamentalist organisations, the Moslem Brotherhood and the Islamic Front, enabling them to establish their own paramilitary forces – which were then deployed to 'bolster' the regular military.[38]

The chaos caused by such management of the military was nowhere as obvious as within the YARAF. While the Taiwanese were flying and maintaining the F-5s, and helping Yemenis convert to the type, the Saudis exercised control over logistic support for the unit operating this type (in similar fashion, Jordanian advisors were working-up a unit equipped with US-made M162 Vulcan anti-aircraft cannons). With Soviets maintaining MiGs and Sukhois and working-up their crews, flying operations had to be conducted in Arabic, English and Russian at the same time.

After years of minimal activity and due to lack of training, novice YARAF pilots experienced significant problems in adapting to their equipment. The result was that the air force lost at least 25 aircraft in flight accidents by the end of 1985. Among these were four MiG-21s lost in two different mid-air collisions, a MiG-21bis flown by Palestinian General Abd al-Karim Othman, a Sukhoi that was destroyed by its own bombs during a live-firing exercise and a Saudi pilot who crashed one of the brand-new F-5Es while flying it to Saudi Arabia for minor repairs. While the massive attrition was partially replaced by an order for 14 additional Su-22s from the USSR, tensions developed between YARAF officers and Soviet advisors that sometimes reached the point of physical violence: at least one case is known where a North Yemeni pilot pistol-whipped his Soviet counterpart. For most of the 1980s, the YARAF – a force of only about 1,000, including just some 40 pilots, organised as listed in Table 6 – was overwhelmed by all the new equipment it received, still hopelessly dependent on foreign support for operations and not in effective control of its own airspace.[39]

DEFEAT OF THE NDF

In the meantime, South Yemen experienced no similar problems but continued suffering from political instability. In April 1980, President Ismail was ousted in a bloodless coup and replaced by Ali Nassir Muhammad al-Hassani. Favouring a combination of political action and subversion over conventional military strategy, Ali Nassir

Table 6: YARAF Order of Battle, 1984

Unit	Base	Equipment	Remarks
111th Fighter Squadron	Daylami	20 MiG-21bis/UM	
112th Fighter Squadron	Daylami	12 F-5E, 4 F-5B	Also known as 'Desert Squadron', '115th' or '121st Squadron'
115th Transport Squadron	Daylami	2 C-130, 2 C-47, 2 Skyvan, 2 An-24, 1 An-26, 2 F.27	
116th Fighter Squadron	Hodeida	14 MiG-21bis/UM	
??? Fighter Squadron	Ta'izz	12 MiG-21bis/UM	
118th Fighter Squadron		12 Su-20/22	Also reported as '18th Squadron of 2nd Fighter-Bomber Regiment'
??? Transport Squadron	Daylami	2 C-130	
124th Helicopter Squadron	Daylami	6 Bell 206, 5 UH-1H, 3 SE.316B,	
128th Helicopter Squadron	Daylami	17 Mi-8	

Table 7: PDRYAF Order of Battle, 1984			
Unit	**Base**	**Equipment**	**Remarks**
9th Fighter-Bomber Regiment	Anad	48 MiG-17	incl. 5th and 22nd Fighter Squadrons; regiment re-equipped with MiG-21s by 1986
10th Helicopter Regiment	Aden, Anad, Riyan	45 Mi-8	Incl. 8th Assault Helicopter Squadron
15th Interceptor Regiment	Aden, Anad, Riyan	82 MiG-21	incl. 6th, 9th and 16th Fighter Squadrons; possible 27th Squadron reported in 1994
22nd Attack Regiment	Aden, Riyan	Su-20/22	sometimes reported as 15th Attack Regiment; Incl. 26th Attack Squadron; regiment included one MiG-21 squadron
?? Transport Regiment	Aden		Incl. 4th Transport Squadron
?? Helicopter Regiment	Aden	16 Mi-24	Incl. 12th Attack Helicopter Squadron

increased the PDRY's support for the NDF and then launched it into a renewed attempt to gain power in Sana'a.

South Yemen's military was meanwhile working hard to assimilate its new equipment. The Army was reorganised into three division-sized, so called 'Axis Commands', each controlling at least two brigades. The majority of these were deployed along the border with North Yemen. The balance of units – including one missile brigade, one artillery brigade, a heavy transport battalion and parachute battalion – reported directly to the General Headquarters in Aden.

Soviet- and Cuban-supported training provided to the PDRYAF remained far more intensive and more realistic than that provided to the YARAF. It included relatively little air-to-air training, but frequent exercises in ground attacks. Tyhe known composition of South Yemen's air force at the time is listed in Table 6.

By early 1982, the NDF was on the verge of gaining control over most of southern and south-central North Yemen. In some areas, it began using heavy weapons provided by South Yemen and shifted to conventional warfare. In April, the insurgents captured the town of Juban. Cautions not to upset Aden or Moscow, Saleh reacted by ordering his military into a number of small-scale operations, supported by transport aircraft and helicopters of the YARAF, which helped distribute supplies. Only once he was certain that there would be no counter-invasion, did the President of North Yemen order an all-out attack on the NDF's major stronghold at Jebel Muryas, near the border to South Yemen. Even then, he forbade YARAF fighter-bombers from approaching the border to the PDRY, and only granted permission for deployment of two SA-2 SAM-sites to Ta'izz. As soon as the insurgents fell back, Saleh quickly declared a general amnesty and withdrawal of his forces away from the frontier. Actually, the YAR military maintained its build-up and even established a well-fortified defensive line in order to prevent the return or resupply of the insurgents.[40]

By this time, the PDRY's military was mobilised and had the 20th Infantry and 25th Mechanised Brigades deployed to Dali and Mukayris. South Yemen's air force concentrated as many as 10 MiG-17s, 12 Su-22s, 30 MiG-21s and at least a battery of ZSU-23-4 self-propelled anti-aircraft guns at Anad AB. However, keen to avoid a serious military confrontation, Ali Nassir gave up and subsequently reduced support for the NDF.[41]

EXERCISES

Bolstered by success from the 1979 war and further deliveries of Soviet arms, the PDRY subsequently concentrated on improving the training of its military and began staging ever-bigger exercises that involved ground, naval and air units. It was during one of the first such operations that the PDRYAF lost the MiG-21 flown by Abdullah Ali Nen, on 2 June 1983.

A year later, the South Yemeni military ran Exercise Radfan-84, which saw the participation of ground, naval and air units, but during which the PDRYAF lost a MiG-21 flown by Mohammed Tshadfy on 19 December 1984.

In 1985, after the Soviets delivered three S-125 Neva/Pechora (ASCC-code 'SA-3 Goa') SAM-sites with 108 V-601 missiles to North Yemen, and promised delivery of one additional SA-2 (with 76 missiles) as well as three SA-3 systems (and 148 V-601 missiles) to South Yemen, the PDRYAF was put to another extensive test: exercise Radfan-85.[42]

Conducted along much of the border with North Yemen, from Bab al-Mandeb via Anad to Lawdar, this again saw the participation of ground, naval and air units. In the course of intensive aerial operations, the PDRYAF lost two Su-22s that collided over the Gulf of Aden on 19 December 1985: Colonel Abdu Hafiz al-Atif ejected safely, while his wingman, Mahmoud Ali Mohammed, was killed.[43]

By 1986, No. 12 Squadron PDRYAF was in the process of receiving a batch of up to 16 Mi-24A helicopter gunships. This front view shows an example armed with four UB-32-57 pods for 68mm unguided rockets. (Pit Weinert Collection)

One of the South Yemeni Mi-24-pilots, with a side view of his mount. Apparently taken at Aden, this photograph was taken so soon after delivery that no markings had been applied. Most PDYAF Mi-24As were destroyed during the bloody unrest of January 1986. (Pit Weinert Collection)

'THE EVENTS'

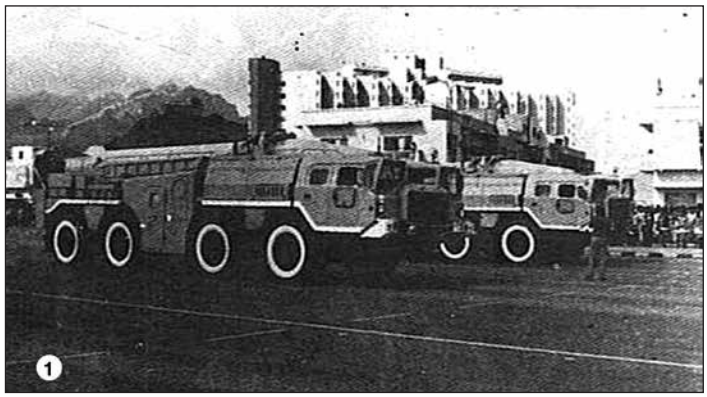
While the military build-up in South Yemen thus continued at a satisfactory pace, its internal politics remained characterised by unrest and violence. Combined with simmering hostilities between top political figures, the failure of the insurgency in Oman and the NDF's defeat resulted in another power struggle in Aden. A deep rift within the Socialist Party developed as Ali Nassir and Minister of Defence Salih Muslih Qasim were blamed for their failure to launch an all-out war on the YAR.[44] By 1986, even Moscow considered them a liability and began encouraging moderates within the Yemen Socialist Party to remove Ali Nassir from power. The power struggle culminated in a failed coup d'etat and a costly civil war that lasted 11 days – colloquially known as 'The Events' in Yemen.

On 13 January 1986, bodyguards of Ali Nassir opened fire on members of the Yemeni Socialist Party Politburo as they were about to meet. Since most Politburo members were armed and had their own bodyguards, a fire-fight erupted, in the course of which Minister of Defence Salih Muslih Qasim and the leader of the opposition, Ali Ahmad Nasir Antar, were killed. As fighting spread to the streets of Aden, some pilots based at Aden AB sided with the coup plotters. Reportedly, two MiG-21s flown by them were shot down while attacking loyalists in the town of Zinjibar. However, a significant part of the PDRYAF and most of the Navy sided with the embattled President. Operating from Ataq, Riyan and Socotra, MiG-21s and Su-22s flown by loyalists repeatedly and heavily bombed Aden AB over the following days. In the course of their air strikes, an estimated 75 percent of the air force was destroyed, including up to 14 of newly delivered Mil Mi-24 helicopter gunships. Eventually, Ismail and thousands of others were killed, while Ali Nassir was ousted and forced to flee – together with about 60,000 people, including a group of up to 40 pilots from the PDRYAF – to North Yemen.[45]

BALLISTIC MISSILE FORCES

Although ballistic missiles were never operated by any of the two Yemeni air forces, they are important to discuss because of their prominent role during the next conflict. As mentioned above, in the late 1970s and through the early 1980s both Yemens began purchasing ballistic missiles and long-range artillery rockets from the USSR. In 1979, South Yemen acquired six transporter-erector-launchers (TELs) of type 9M117M and an unknown quantity of missiles for the R-17E – or 'Scud' – system, as well as 12 launchers and 24 FROG-7 rockets (sighted for the first time in Aden in September 1979). All of these entered service with the 26th Artillery Brigade.

In response to such a threat, North Yemen placed an order for 12 advanced 9K79 (ASCC-code 'SS-21 Scarab') systems, including 12 9M714 TELs and around 100 OTR-21 Tochka missiles. These arrived together with a team of 150 Soviet advisors who helped work up the 1st Artillery Brigade. Declared operational in 1988, this unit was assigned to the Republican Guards.[46]

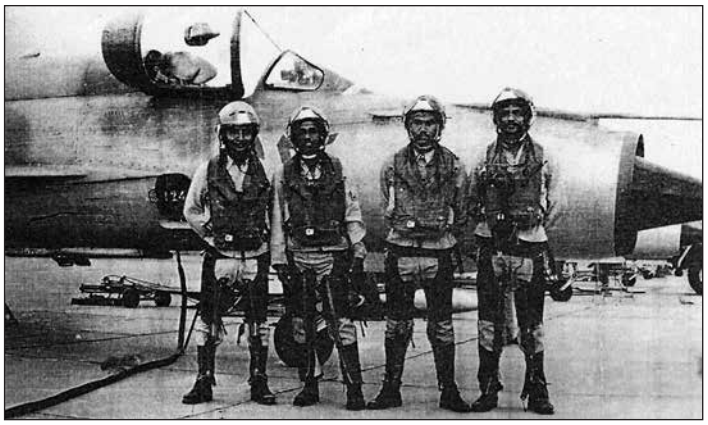


1.
South Yemeni 'Scuds' made their first public appearance during a parade held in Aden in September 1979. Clearly visible on this photograph is a pair of 9M117M TELs, each loaded with a single R-17E missile. (Tom Cooper Collection)

2.
A trio of launchers with R-65 Luna-M ('FROG-7') rockets during the same parade. (Tom Cooper Collection)

3.
This still from a video taken during a parade in Sana'a in the late 1980s shows four of North Yemen's 9M714 TELs with OTR-21 Tochka ballistic missiles. (Pit Weinert Collection)

A poor, but highly interesting photograph showing a pair of MiG-21bis at Aden AB. Their camouflage pattern – standardised for most aircraft of this variant exported to the Middle East and Africa in the early 1980s – consists of beige and olive green on top surfaces and sides. (Pit Weinert Collection)



Four South Yemeni pilots in front of the MiG-21MF serial number 124 sometime during the 1980s. Better and more intensively trained than their Northern counterparts, they played a dominant role early during the Civil War of 1994. (Pit Weinert Collection)

FAILED UNION

What was left of South Yemen after 'The Events' came under the control of Ali Salim al-Beidh, another staunch communist. Moscow did deliver more advanced MiG-21bis to replace older variants, a new batch of Su-22s and a small number of Mil Mi-25 helicopter gunships, but its own and South Yemeni economic difficulties made it impossible to rebuild the PDRY's military to pre-1986 strength. Left with no choice, the Soviets temporarily expanded their own military presence.

Beidh's government was quick to understand what was going on: concluding that the only force in both Yemens that was capable of removing Saleh from power was now *de facto* removed, he opened serious negotiations towards unification with North Yemen. When these reached an advanced stage, the Republic of Yemen was declared on 22 May 1990: Saleh become the President, and Ali Salim al-Beidh Vice-President. For the first time in centuries, Greater Yemen was united.

A South Yemeni pilot greeting his ground crew in front of a MiG-21bis after a mission. Apart from the standard camouflage pattern applied on the aircraft in the background, note part of the national marking, usually applied on the rudder of the aircraft in a fashion certainly influenced by Cuban advisors. (Pit Weinert Collection)

5
YEMEN CIVIL WAR OF 1994

The unification of North and South Yemen included a complex process that was to last over 30 months. While a unified Parliament was formed, a unity constitution agreed upon and general elections held in April 1993, the rest of this effort largely failed. For example, among related agreements, the two militaries were to merge and a Southerner was appointed the Minister of Defence. However, this post held no real authority because Saleh took care his relatives and closest aides controlled all important command positions. The entire situation left Southerners feeling economically and politically marginalised, and this was not made any better when they were repeatedly exposed to the violence of Northerners.

Unsurprisingly, the militaries of North and South Yemen never managed to unite. While it was planned that the PDRYAF and YARAF would merge their units into a total of five brigades, each consisting of three squadrons, all of their units remained where they were before 1990.[1] Instead, it was decided that the merger of the two militaries would be spearheaded by their ground forces. The smaller southern army – which totalled only 27,000, equipped with about 480 tanks and other armoured vehicles – was required to send its three best units to Sa'ada, Amran and Dhamar.[2] Although these remained under the control of Aden, their troops received significantly lower salaries than their northern counterparts. The northern army – which was 37,000-strong and had 664 tanks and other armoured vehicles – deployed two of its brigades in the south, but kept the Republican Guards in the Sana'a area. All southern requests to gain some control over the latter formation were turned down by Saleh. As negotiations dragged into November 1993, Beidh sought to recall his forces, but Saleh refused. Instead, a tense stalemate developed as units of the Republican Guards surrounded the three southern brigades. Left with no choice, southern officers and radicals began recruiting their own militias and organising paramilitary training camps.

Following a number of minor skirmishes, Beidh ordered two of the three brigades deployed in North Yemen to try extracting themselves towards the south. Related manoeuvring of the 3rd Armoured Brigade (south) around Amran resulted in the first clash with the 1st Armoured Brigade (north) on 27 April 1994. Within minutes, this conflagrated into a major armoured battle that was to last for three days, in the course of which – according to South Yemeni sources – the two units suffered a combined loss of about 150 tanks and 22 other armoured vehicles, over 200 killed and 250-300 injured, while 400 South Yemeni troops were captured. Only one battalion of the 3rd Armoured Brigade eventually managed to escape to Aden, which it reached by 4 May. Days-long skirmishes also erupted north of Dhamar, pitting elements of the 25th Armoured

Brigade (south) against the 4th Artillery Brigade (north). This clash transformed into a major battle, fought from 3 May. With both sides becoming preoccupied with accusing each other of starting the fight, there was nobody to prevent the following war.[3]

PRE-EMPTIVE STRIKE

Realising there was no way to extract his best units from North Yemen, Beidh and his military commanders decided to destroy the North Yemeni units deployed in South Yemen. For this purpose, they began concentrating regular Army troops and local militias around their garrisons. Such an operation required aerial superiority, and thus shortly after news of the destruction of most of the 3rd Armoured Brigade in the Amran area reached Aden on 30 April, a decision was taken to launch an aerial offensive against YARAF air bases. The same evening, all civilian aircraft were evacuated from Aden and either flown abroad or to Hadramawt airport. Rumours of these events reached Sana'a during the following night, prompting Saleh to put all of his military on alert on the morning of 1 May. Meanwhile, Saleh ordered the deployment of two brigades of the Republican Guards to counter the 25th Armoured Brigade (south) in Dhamar, deployment of two brigades to the Radfan area and another brigade of the Republican Guards, reinforced by an air defence regiment, to the aid of the 2nd Armoured Brigade (north) deployed in Camp Raha, east of Lahij.

It was in light of these developments and Saleh's orders that the air defences of the 2nd Armoured Brigade opened fire at a formation of PDRYAF MiG-21s that made a high-speed, low-level pass over them on 2 May. They hit one of MiGs, causing it to crash and kill its pilot.

Beidh and his military commanders knew that most units of the North Yemeni air force were deployed at bases well away from their mutual border. This not only increased their survivability but also meant that PDRYAF MiGs and Sukhois would have to carry fewer bombs in order to reach Sana'a and Hodeida, and that the longer they flew over North Yemen, the more likely it was that their approach would be detected. Nevertheless, Beidh's commanders felt their air force was much better prepared than their rivals', and that YARAF had poor control over its airspace, and thus assessed themselves as capable of knocking out their northern counterpart

South Yemeni personnel with one of their Soviet advisors in the late 1980s, in front of a Mil Mi-14 helicopter. This little-known variant was originally acquired for anti-submarine warfare purposes, but was used in an attack and transport role during the Civil War of 1994. Note that the example visible in the background – serial number 602 – wore some sort of a camouflage pattern, which is very unusual for Mi-14s. (Pit Weinert Collection)

and then of establishing the air dominance necessary to extract the other two brigades from the North. Furthermore, considering the absence of the Republican Guard from Sana'a, they expected to destabilise Saleh's government by air strikes on the northern capital before quietening the conflict down to the level of earlier wars, usually characterised by limited skirmishes along the border. They thus developed a plan for a war that would be opened by a PDRYAF offensive aimed to knock out leadership targets, vital infra-structure and economic facilities, but also the YARAF, with the aim of sowing confusion and insecurity.[4]

Early on the morning of 4 May, about 40 MiG-21s and Su-22s of the PDRYAF were launched into attacks on the Presidential Palace and two major power stations in Sana'a, the Daylami and Hodeida air bases, Ta'izz airfield, oil facilities in Ma'rib and several targets in the Hodeida area.

The only detail known of this operation is that the first wave of attacks on Daylami AB was flown by four Su-22s of the 22nd Attack Regiment, led by Lieutenant Colonel Ghalib as-Sakkaf. This formation destroyed three YARAF fighter-bombers on the ground and damaged the control tower, while suffering no losses. Although

A South Yemeni soldier showing the wreckage of a North Yemeni MiG or Sukhoi (by 1994, the green star was removed from the national insignia of most YARAF aircraft), shot down early on during the Civil War. (Albert Grandolini Collection)

falling short of winning the war or taking the enemy by surprise, the effort did inflict significant damage. Not only was Saleh's official residence hit, but both power stations providing electricity to the North Yemeni capital were knocked out. Officially, Sana'a confirmed most of the attacks, but claimed five PDRYAF aircraft shot down – supposedly including two over Raha, two in Mukairas and one in the Rahda area.[5]

In reaction to the air strikes, the High Command in Sana'a ordered all of its units into a general attack. The 2nd Armoured Brigade and a brigade of the Republican Guards launched an attack from Lahij in the direction of Aden, which the Southerners managed to stop only a few kilometres outside Khormaksar.

ESCALATION

When the YARAF failed to react to the opening air strike, the PDRYAF launched additional attacks on the morning of 5 May, again targeting Dailyami AB and other important facilities around Sana'a. These prompted Saleh's government to increase its tally for southern fighter-bombers supposedly shot down to seven. It was only during that afternoon that the YARAF Su-22s flew their first air strikes on Aden: approaching from the west, over the sea, they targeted the local power station, port, oil refinery and TV station.[6]

Far from being satisfied with the results of their own efforts, but knowing that North Yemeni air defences were meanwhile on full alert, on the morning of 6 May, the Southerners fired two Scuds at Sana'a: one hit the Presidential Palace, while the other ruined an amusement park nearby. The YARAF returned the favour by raiding Aden AB and several other targets. The PDRYAF spent much of the day attempting to support the 25th Armoured Brigade, which was under flanking attacks by the Republican Guards in the Dhamar area.

During the day, Sana'a claimed the downing of no less than five enemy aircraft over this part of Yemen alone. Two of these were reportedly shot down by a pilot named as Major Nabi Ali Ahmad in one of the few air combats of the war. Flying an F-5E, Nabi was said to have attacked a pair of MiG-21s out of the sun, and smashed each with AIM-9 Sidewinder missiles: only one of the Southerners ejected safely, but died of his injuries shortly afterwards. According to sources from South Yemen, only one MiG-21bis – an Anad-based aircraft of the 9th Interceptor Regiment flown by Lieutenant Colonel Mohammed Radwan Ahmed Mohsen – was shot down in a brief air combat near Kersh, and its pilot killed.[7]

Reliability of such reports remains unclear. In one version, despite 14 years of its build-up, the YARAF anything but excelled itself during this war, and instead of exploiting Major Nabi's success, subsequently disappeared from the skies over South Yemen. But another version has it that the YARAF subsequently deployed its F-5s for air warfare only, while MiGs and Sukhois flew ground attacks. Accordingly, its pilots were convinced the Northrop's nimble Tiger II was more manoeuvrable than MiGs and Sukhois, and their superior training – stressing pilot initiative – provided them with a decisive edge. All that is certain is that because both air forces operated the same types of aircraft, positive identification during this conflict proved a nightmare, and both sides were as often firing at their own as at enemy aircraft.[8]

Keeping their air force back, the Southerners fired five Scuds at Sana'a and Ta'izz during the night of 6-7 May. The YARAF – which had eight Iraqi pilots with combat experience from wars with Iran and Kurds in the 1980s, and was reinforced by a few additional Su-22M-3s delivered only weeks before the war began – retaliated with two strikes at Aden AB, this time approaching from the east. The PDRYAF had much better early warning capability

A group of South Yemeni troops near the SA-3 SAM-site (in the background) that was protecting the Anad AB. Air defences caused most of the losses suffered by the two Yemeni air forces during the Civil War of 1994. (Albert Grandolini Collection)

A very rare photograph showing a row of North Yemeni MiG-21bis aircraft sometime in the early 1990s. Of particular interest are different variants of the late, darker version of the camouflage pattern applied on most examples of this variant exported in the late 1980s, and their serials – visible are 255 and 134 – applied in European digits on the forward fuselage. (Pit Weinert Collection)

and well-developed air defences, but the Northerners flew around their targets in a wide arc before delivering attacks in the rear of the enemy. In this fashion they had two tactical advantages: most of the time they took their opponents by surprise through attacking from a 'friendly' direction and then, after releasing their ordnance, they were either quickly back over friendly positions, or at least on their way back home. Nevertheless, the Southerners claimed two YARAF aircraft as shot down over Aden that day: one in the morning and the other during the afternoon. All that was confirmed was that a Su-22 was hit by ZSU-23-4s in the fin area, crashing into the sea. What is certain is that Aden AB remained operational for several weeks longer.[9]

On 7 May, Saleh ordered the destruction of the next Southern unit – the 20th Mechanised Brigade concentred in the Yarin area. For this purpose, he deployed several units of the Republican Guards in a pincer attack. PDRYAF MiG-21s and Su-22s repeatedly attacked advancing columns of North Yemeni forces, but achieved little. Partially through bribing southern officers, and partially through fighting, Saleh's forces wiped out the 20th Mechanised Brigade within just 24 hours.

On 9 May, the YARAF lost a single MiG-21bis flown by Lieutenant Colonel Mohammed Ali ash-Sharafi during an attack on Anad AB. A day later, the PDRYAF lost a Su-22M-4K of the 15th Attack Regiment flown by Captain Abdelsalam Obeid Saleh during a combat sortie in Dhale Province.[10]

DECISIVE BATTLES

In an attempt to distract the opponent and stop the enemy's advance in the direction of Aden, the commanders of the South Yemen military ordered an offensive in the Bab al-Mandeb area, and began deploying various militias to wage a guerrilla war behind enemy lines, on 11 May 1994. Furthermore – and whether in retaliation to reported massacres of captured soldiers of the 20th Mechanized Brigade, as usually reported, or in despair – they fired two Scuds at Sana'a. One of these fell into an apartment area, killing 25 civilians and injuring 30. A Scud attack was also reported from Ta'izz, though with unknown consequences. On 13 May, the 9th Fighter-Bomber Regiment PDRYAF launched four MiG-21s in an attack on the Presidential Palace in Ta'izz. The aircraft flown by Captain Ahmad Fadhil Abdullah ash-Shafiri was hit by a SAM and the pilot forced to eject in the ar-Rahida area. He is known to have been captured alive, but was injured by Northerners upon landing by a parachute and subsequently disappeared.[11]

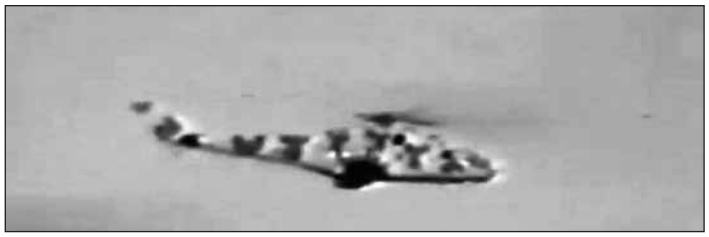
Later the same day, North Yemen forces entered Dhale Province and opened their assault on Anad AB, where the Southerners reacted with their only large counter-attack of this war. Aiming to hit the eastern flank of the Republican Guards' advance, it was repelled, but losses were heavy on both sides and included up to two YARAF aircraft shot down. The Northerners certainly lost one Sukhoi during an attack on warships of the southern navy off Bab al-Mandeb on 13 May: the pilot ejected safely and was picked up from the sea.[12]

Another Scud attack on Sana'a was reported on 15 May, although the missile appears to have hit the ground outside the city. The ground battle meanwhile moved further south where, despite several relatively successful counter-attacks by Southerners, the Republican Guards encircled Anad AB from three directions. The PDRYAF lost a Mi-8 helicopter of the 10th Regiment in the course of a ground-attack sortie in this area on 15 May: the crew, including Captain Mohammed Awad Saleh, was killed.

On 16 May, the Northerners not only secured Anad AB but also claimed two PDRYAF helicopters as shot down around Radfan – one of these supposedly by Major Nabi, for his third kill of the war. According to South Yemeni sources, both helicopters were Mi-8Ts of the 10th Helicopter Regiment. That piloted by Captain Ali Muthenna Talib was shot down during the last-minute evacuation of Anad AB, while the Mi-8T flown by Majors Mohammed Hussein Nasser and Hadi Mohammed Mohsen disappeared under unclear circumstances.[13]

At Anad AB, the Northerners captured at least three intact PDRYAF aircraft: the MiG-21UM serial number 106, MiG-21MF serial number 134,and MiG-21bis serial number 174. They also

A North Yemeni pilot about to embark a MiG-21bis serial number 252. (Pit Weinert Collection)



That at least a handful of South Yemeni Mi-24As had survived the carnage of the coup of 1986 became clear during the Civil War of 1994, when one of them was captured on video in the course of an attack on North Yemeni troops near Anad. This still indicates that the camouflage pattern consisted of 'Sand and Spinach' – i.e., sand and blue-green colours. (Pit Weinert Collection)

A still from a video showing the MiG-21UM serial number 106, captured by North Yemeni troops at Anad AB on 16 May 1994. (Pit Weinert Collection)

A North Yemeni pilot with his F-5E: although anything but top-notch fighters in 1994, this type more than proved its mettle in combat against PDYRAF MiGs and Sukhois, and thus helped the North Yemenis establish at least local air dominance over crucial parts of the frontline. (Pit Weinert Collection)

found one intact SA-2 SAM-site and large quantities of arms and ammunition.[14]

In order to consolidate their gains, and reinforce forward-deployed units, the Northerners then stopped their advance and rushed several contingents of tribal levies recruited by Saleh's government in a southely direction.Among these was not only the militia of the Moslem Brotherhood, but also that of the Fadhli tribe: this was sidelined by the Marxists in South Yemen in the 1980s and then reinforced through an influx of returnees from the war in Afghanistan in early the 1990s. Several of these militias eventually proved more combat-efficient than much of North Yemen's army. For example, tribal levies secured Bab al-Mandeb in a pitched battle, during which the YARAF lost three fighter-bombers. In central Yemen, their assaults are said to have enabled the Republican Guards to break through enemy defences and drive all the way to the coast at Zinjibar. South Yemen was now split in two.

SIEGE OF ADEN

Following the loss of Anad AB, the PDRYAF was forced to split its effort: aircraft based at Aden were flying close air support sorties, while those at Riyan AB continued flying 'strategic' air strikes. Whatever was left of the air force was thrown into the battle to stem the advance of the Northerners, and there are reliable reports that the PDRYAF still managed to launch about 100 combat sorties every day. However, all the courage and efforts of its pilots, many of whom flew three or four times a day, was in vain: not only were two further fighter-bombers shot down by air defences on 19 May, and a Mi-8 flown by Captain Abu Najib on 20 May, but they were far too few to balance the massive quantitative advantages of the Northerners on the ground.[15]

Left with no other options, the High Command in Aden then attempted to increase pressure upon Sana'a by additional Scud attacks. Despite President Saleh's announcement of a three-day ceasefire, on 20 May Ta'izz was hit by one missile, while Sana'a was targeted on 23, 24 and 28 May. Depending on the source, this brought the total number of surface-to-surface missiles fired by South Yemen since 6 May to between 13 and 16. Most of the Scuds in question missed their targets, but they killed and wounded dozens of civilians. The YARAF retaliated with an air strike on Aden AB that resulted in the destruction of at least one fighter-bomber on the ground, and then the first SS-21 strike on 22 May. However, it lost one F-5E six days later, when the Tiger II flown by Major Mohammed Yahya ash-Shami was hit by anti-aircraft fire, caught fire and crashed.

On the ground, the Southerners meanwhile moved their government and General Command to Hadramawt, and attempted to establish a new frontline between Sailan, Beihan and Baida, hoping to use that part of the country east of it as the foundation of a new, independent South Yemen. However, as soon as the Northerners restarted their offensive on 23 May, it became obvious that available Southern forces were insufficient to stem the enemy advance ever deeper into their territory.

On 27 May, the PDRYAF flew multiple strikes against troop concentrations around Anad, and two days later scored its only aerial victory of this conflict when reportedly downing a YARAF MiG-21bis flown by a Syrian pilot. Much less courageous was the action of five South Yemeni pilots who defected to the North around this time while flying five relatively new Mi-17 helicopters.[16]

As his forces converged on Aden from four different directions, and while reporting negotiations with Southerners, Saleh ordered additional attacks by SS-21s on 30 May and 1 June. The YARAF also attempted to hit the refinery in Aden on 1 June, but apparently failed to cause any serious damage. Similar can be said about the results of the second and third air strikes on this crucial installation, flown on 5 and 6 June. Realising the Northerners were attempting to destroy its fuel supplies, the PDRYAF concentrated most of its remaining air defence assets in this area, and on 7 June claimed no less than three YARAF fighter-bombers shot down. The Northerners remained insistent, and their fourth attack – flown on 8 June – seems to have caused serious damage: fires were seen in the refinery for the next two days.[17]

In an obvious act of retaliation, the PDRYAF – which meanwhile evacuated most of its aircraft to Ataq airfield and Riyan AB – flew about 20 air strikes on northern oil installations in the Ma'rib area from 8 June. YARAF Su-22s raided Ataq airfield on 13 June, apparently hitting the PDRYAF Su-22 flown by Brigadier General Ahmed Abdullah al-Maddah – commander of the 15th Attack Regiment – and killing its pilot on take-off.[18]

One of the final shipments of Soviet arms to South Yemen included a batch of between 12 and 14 Su-22M-4Ks. Two Soviet advisors and two PDRYAF technicians are shown here working on the example with serial number 71. (Pit Weinert Collection)

Two South Yemeni Su-22M-4K-pilots with ground personnel in front of the aircraft with serial number 05. Flown by the 22nd Attack Regiment, big Sukhois played an important role during the 1994 Civil War. (Pit Weinert Collection)

This group photo of South Yemeni pilots and ground crews offers a good look at another of the PDRYAF's Su-22M-4Ks and reveals that their camouflage pattern was quite similar to that applied on aircraft of the same variant delivered to Angola in 1989. This is a good indication of their probable date of delivery. (Pit Weinert Collection)

YARAF operated only a small number of Antonov transports in 1994, but during the final days of the Civil War these played a prominent role in hauling reinforcements and supplies to airports closer to the frontlines. (Albert Grandolini Collection)

Following multiple attacks by surface-to-surface missiles and YARAF's fighter-bombers, as well as artillery barrages, parts of the Aden refinery were still on fire when a mix of North Yemeni units and paramilitary groups entered the city. (Albert Grandolini Collection)

Another YARAF air strike hit Aden AB on 15 June, but the MiG-21UM flown by Colonel Hamza Abbad Galib and 1st Lieutenant Ahmed Mohammed Salim was shot down by air defences near Sallahaddin District, and the crew killed. On the next day, Aden AB was reportedly hit by three Scuds, but whether the missiles used were SS-21s or something else is unclear, because Northern troops were meanwhile in the outskirts and subjecting the entire city to repeated barrages of artillery fire. What is certain is that on 20 June, the PDRYAF flew some of its final long-range strikes against selected targets along the coast of the Red Sea. Four Su-22s set the power plant in Mocha on fire, which the local fire brigade took two days to extinguish. An attempt by another formation to raid Anad AB was less successful: the MiG-21 flown by Major Abdul Habib

A North Yemeni T-55 main battle tank on the streets of Aden in June 1994. (Albert Grandolini Collection)

Salah was shot down in an air combat with one of two YARAF F-5Es that patrolled the area, and its pilot killed.[19]

YEMENI MIG-29S

As the war heated up, a new and potentially major development occurred in the form of the appearance of MiG-29s in South Yemen. There are at least two versions of how these advanced fighter-bombers were acquired by Aden.

According to the version provided by the British and Russian media, at an unknown date in the first half of 1994, a contract was signed with Moscow stipulating deliveries of two MiG-29s, 16 MiG-21s and 12 Su-22s. At least some of these aircraft – apparently including the two MiG-29s – reached the port of Mukalla by mid-June, and were then assembled at Riyan AB. On 20 June, another deal was signed with the government of Moldova for purchase of four MiG-29s, assorted weapons and equipment worth $40 million. With the same contract, the South Yemenis also hired five pilots and 12 maintenance personnel. These four aircraft are said to have been delivered to Riyan aboard chartered Il-76 transports.[20]

According to sources, the identity of which cannot be disclosed for reasons of their personal safety, it was in January 1994 that the government in Aden signed a contract with that of Moldova for delivery of three single-seat MiG-29s and one two-seat MiG-29UB. The aircraft in question were delivered to South Yemen on Moldovan-chartered Il-76 transports in early July. Sometime between these two dates – probably in March 1994 – the South Yemenis placed their second order for MiG-29s from Moldova. This is said to have included another three single-seaters and one two-seater, but also a consignment of R-73 (ASCC-code 'AA-11 Archer') air-to-air missiles and a contract for nine Romanian and Belarussian pilots and an unknown number of maintenance personnel. These MiG-29s were delivered by Moldovan-chartered Il-76 transports in early July 1994. However, two of the aircraft in question landed in Israel instead, continuing their trips to South Yemen on 6 July. According to the same source, the third and final contract for Moldovan MiG-29s was signed "sometime in early July", and stipulated deliveries of the third batch of four fighter-bombers, but these never reached their destination.[21]

Although this happened nearly 20 years ago, precise details of the contracts were never revealed, and thus it remains unknown which of the two versions of this story is true. However, contrary to reports in the British and the Russian media, the Moldovans never had any pilots qualified to fly MiG-29s: even during their short war with

Post-war photograph of four ex-Moldavian MiG-29s delivered to South Yemen during the Civil War of 1994. Note the serials 60, 45 and 42 applied on the intakes of the top three aircraft in white, and 22 applied on the aircraft visible in the lower right corner. (M.T.L. Collection)

A still from a video showing the South Yemeni Su-22M-3 serial number 43 (applied in red outlined in white). Although this type was flown by both air forces during the Civil War of 1994, South Yemeni Su-22-pilots distinguished themselves by flying long-range strikes that delivered precise hits on some of the most important installations in North Yemen. (Pit Weinert Collection)

At the entry to Aden AB, the North Yemenis 'captured' this disused and badly damaged MiG-21bis, which served as a gate guard. (Albert Grandolini Collection)

Russia in 1992, they had to hire several pilots from the Romanian Air Force to fly these aircraft for them.[22]

What is also certain is that the appearance of MiG-29s did not "strike fear into the hearts of YARAF pilots", as expected by the Southerners. On the contrary, the new MiGs proved true 'gas-guzzlers' – which, at the time the PDRYAF began experiencing fuel shortages, was certainly no advantage. Furthermore, while their mercenary pilots proved well-versed in air-to-ground operations, they were inadequately trained for air combats and proved less than enthusiastic to hunt for YARAF fighter-bombers.[23] Unsurprisingly, their appearance left no lasting impressions. On the contrary, the Northern forces tightened the siege on Aden but then settled down to keeping the city under pressure from 21 June through shelling and sporadic air strikes on the local air base.

PDRYAF MiG-29s and their Belarussian and Romanian pilots went into action on 29 June, when they joined a number of MiG-21s in an air strike on oil installations around Ma'rib. These came under attacks of Southern fighter-bombers for the first time on 20 June, but it seems that initial attacks failed to inflict serious damage. As far as is known, it was only after the bombardment on 29 June that the exploitation of local oilfields was stopped. However, by that time local air defences were significantly strengthened and one of the MiG-29s received a severe hit – apparently by an SA-7 or SA-14

North Yemeni paramilitaries trying to identify the aircraft flying high above them. Due to both air forces operating the same aircraft types during the Civil War of 1994, identification of their own from enemy aircraft proved a nightmare, and it is almost certain that each side shot down a number of their own aircraft. (Albert Grandolini Collection)

MANPADS. The pilot nursed his aircraft back over the Southern frontlines before ejecting safely. During another mission on that day, a lone MiG-29 encountered two YARAF F-5Es, but neither side opened fire and all three aircraft returned safely.[24]

Elsewhere on 29 June, YARAF lost one of two Su-22s from Ta'izz involved in attacks on South Yemen Navy warships off the port of Aden: the aircraft flown by Major Abdullah Ali at-Tabab was hit by flak and crashed into the sea, killing the pilot.[25]

THE END OF SOUTH YEMEN

The final collapse of South Yemen came rather suddenly. After all attempts at a negotiated settlement failed, and let down by local tribal leaders, Ali Salim al-Baidh fled abroad on 30 June. Behind him, what was left of the Southern military disintegrated. On 5 July, Northerners overran Riyan AB after a bitter battle in which two YARAF MiG-21s – both flown by Iraqi pilots – were shot down. One of the final PDRYAF casualties of the war was Lieutenant Colonel Sakkaf, who was killed in the course of an attack on enemy troops in Mukalla while flying a MiG-21, sometime around this date. At Riyan AB, the Northerners found at least one damaged MiG-29, five MiG-21s and a number of other aircraft. Two days later, the Republican Guards launched a final assault on Aden AB, where no less than one destroyed and five or six intact MiG-29s were found.[26]

The PDRYAF's foreign mercenaries did not participate in these final battles: the entire team hired to fly and maintain MiG-29s left South Yemen in a rather rushed fashion. While thousands of South Yemeni civilians and military personnel followed, some decided to

A formation of seven YARAF F-5Es in a post-war military parade in Sana'a. Although still armed with old variants of AIM-9 Sidewinder air-to-air missile, their sheer presence was sufficient to keep even MiG-29s operated by South Yemen in check. (Pit Weinert Collection)

Colonel Nasser Mohammed Ahmed – born in Aden in 1963 – was one of nine or 10 South Yemeni MiG-21-pilots known to have been killed during the Civil War of 1994. He died during the Battle of Karameh. (via Tom Cooper)

Both sides made heavy use of their Mi-8 helicopters during the Civil War of 1994. This Mi-17 of the PDRYAF is unloading supplies for frontline troops. During the last few days of the war, several of them were flown to Djibouti and Oman. (Pit Weinert Collection)

The booty the North Yemenis found at captured South Yemeni air bases included large stocks of R-13M air-to-air missiles. (Pit Weinert Collection)

Wreckage of one of the ex-Moldovan MiG-29s found at Aden AB when it was overrun by North Yemeni troops on 7 July 1994. (Pit Weinert Collection)

fight to the bitter end. Among them was Captain Ali Mohammad Ali, who took-off in a Su-22 from Aden AB shortly before this was overrun by the Republican Guards. Realising he could no longer land at the same base, he attempted to reach Riyan AB, but ran out of fuel near Mukalla. Ali ejected safely over the sea and was picked up by local fishermen. However, next day he was arrested by the Northerners and never heard of again. Dozens of other South Yemeni pilots meanwhile escaped to Djibouti with their MiGs, while some used helicopters of the 10th Helicopter Regiment to reach Oman. One transport crew fled all the way to the United Arab Emirates (UAE). Representatives of Saleh's government were busy reclaiming all of the aircraft and helicopters for much of July and August.[27]

With most of the details about this short but bitter war still unknown, precise figures about losses are unavailable. Estimates for the number of casualties range from 6,000 to 10,000 killed and nearly 100,000 people displaced. Unsurprisingly, details about aerial warfare are sketchy at best: what is known about losses of both air forces are claims published by officials of either side. In slightly less than two months of fighting, these reported nearly 20 aircraft and helicopters of the YARAF and about 40 aircraft and helicopters of the PDRYAF as shot down – mostly by ground fire. Up to two

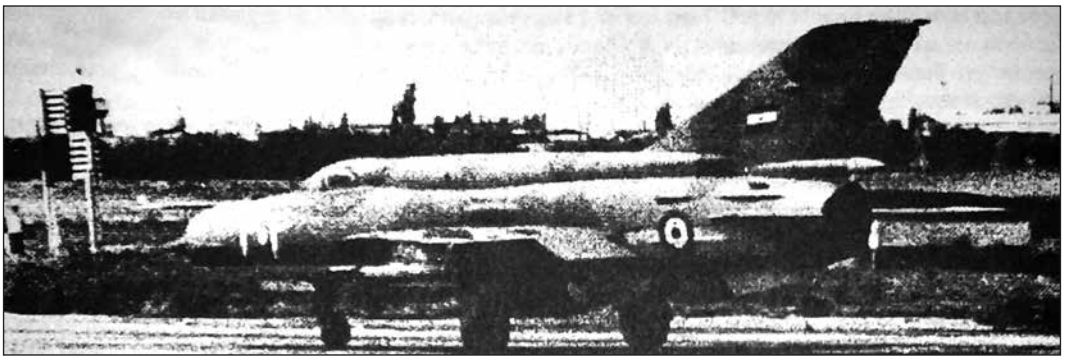
dozen aircraft seem to have been destroyed on the ground, and at least five in air combats. A cross-examination of similar sources results in the conclusion that about 20 Scarabs and up to 30 Scuds were launched by North and South Yemen. The sole exception to these unconfirmed details were the PDRYAF's casualties: according to local sources, 8-10 Mi-8/17-pilots, at least 10 MiG-21-pilots and nine Su-22-pilots were killed during this short but bitter war. Those that are known are listed in Table 8.[28]

As subsequent history was to show, the final union of Yemen, effective from the second half of 1994, was to result in only 10 years of relative peace.

Table 8: PDRYAF pilots Killed or Captured in 1994 Civil War[29]

Date	Notes
Nasser el-Almendro	Mi-8, 10th Regiment; KIA 28 June 1994
Ali Saleh Ali	Mi-8, 10th Regiment;
Mohammed Rizwan Ahmed Mohsen	Mi-8, 10th Regiment; KIA 7 May 1994
Abu Najib	Mi-8, 10th Regiment; KIA 20 May 1994
Hamza Abbas	MiG-21, 9th Regiment, Sallahaddin
Nassr Mohammed Ahmed	MiG-21, CO 22nd Squadron/9th Regiment; Mansoura
Akram Hadrami	MiG-21, 15th Regiment
Mohammad Hussein	MiG-21, 9th Squadron/15th Regiment
Salem Hussein	MiG-21, Deputy CO 22nd Squadron/9th Regiment; Aden
Ali Ahmed al-Qadra	MiG-21, 22nd Squadron/9th Regiment; Habilayn
Riaz Ali Saif	MiG-21
Mohammed Ahmed Salem	MiG-21, 22nd Squadron/9th Regiment; Sallahaddin
Abdul Habib Salah	MiG-21, Anad
Ahmed Fadhil Abdullah ash-Shariri	MiG-21, 9th Squadron/15th Regiment; Ta'izz
Mustafa Ali	Su-22M-3, Aden
Ali Muhammad Ali Amsawa	MiG-21 or Su-22, 27th Squadron/15th Brigade; Mukalla
Muhammad Hariri	Su-22, Aden
Khalid Ahmed H'tara	Su-22, Dhale
Ahmad Abdullah Maddah	Su-22, Abyan
Hassan Ahmed an-Naqib	Su-22, Zinjibar
Ghalib as-Saqqaf	Su-22, Mukalla-Riyan
Mohammed Ahmed Naman	Su-22, Abyan
Abdelsalam Obeid Saleh	MiG-21 or Su-22, 27th Squadron/15th Brigade; Dhale

Workers at the Aden refinery seem while removing barrels filled with inflammables, scattered around facility following one of North Yemeni air strikes, towards the end of the Civil War in 1994. (Albert Grandolini Collection)



Rather poor, but highly interesting photograph of a North Yemeni MiG-21bis from the late 1980s. The aircraft wore the serial number 202 and the camouflage pattern applied on examples usually delivered to various African customers (see colour section for references). (Tom Cooper Collection)

A still from a video showing a North Yemeni soldier seen while climbing over the South Yemeni MiG-21bis serial number 124, captured at Aden AB, in 1994. (Pit Weinert Collection)

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Interviews with various Egyptian, Iraqi, Saudi, and Yemeni air force officers, pilots and ground personnel (see Acknowledgments and Endnotes).

NOTES

Chapter 1

1 Haykal Bafana, Hadhramaut, 'Rebellion, Federalism or Independence in Yemen', *Muftah.org*, 22 April 2014; Brian M. Perkins, 'The Risks of Forgetting Yemen's Southern Secessionist Movement', *WarOnTheRocks.com*, 13 March 2017; Sasha Gordon, 'Abyani Tribes and al-Qaeda in the Arabian Peninsula', *Criticalthreats.org*, 25 July 2012.

2 Youssef Aboul-Enein, 'The Egyptian-Yemen War (1962-1967): Egyptian Perspectives on Guerrilla Warfare', *Infantry Magazine*, January-February 2004.

3 Lennart Andersson, 'Aviation on the Arabian Peninsula, Part 2', *Wings Over the Desert* (online article).

4 CIA, *Yemen (San'a) April 1973, National Intelligence Survey*, CIA FOIA Electronic Reading Room.

5 Andersson, 'Aviation on the Arabian Peninsula, Part 2'. Exact types of aircraft in question are largely unknown but, according to Anderson, one was a single-seat Hanriot HD.1 fighter, one an Ansaldo SVA.10 two-seater, and another a SAML S.2. Gauging by contemporary photographic evidence and surviving propellers, Andersson assessed the total as including two Ansaldo SVAs, one Ansaldo A.1 Balilla fighter, two SAML S.2s, one Hanriot HD.1 and one unknown aircraft.

6 *Ibid*.

7 Curtis, pp.288-90.

8 Dresch, pp.31-32.

9 Andersson, pp.13-26.

10 Flintham, p.156, & Thompson *et al*, p.115. It is notable that in 1948 Great Britain introduced a military designation system along which each aircraft designation consists of a name, a role prefix and a mark number. An aircraft name was agreed between the Air Ministry or Admiralty and the manufacturer (later importers too). This was followed by the Mark number - 'Mark', 'Mk.' or 'Mk' - and then indicated in a Roman numeral. This system has been largely unchanged since: only Roman numerals have been largely replaced by European. For example, as a fighter and fighter-bomber, full designation of aircraft like Tempest Mk VI in 1948 became Tempest F.Mk VI. Marks of types introduced at later dates were usually given in European numerals. For example, Hawker Hunter F.Mk 6 for the earlier, fighter variant, and FGA.Mk 9 for the later, fighter-bomber variant (FGA standing for 'fighter, ground attack').

11 CIA, *Special Report: The Conflict in South Arabia*, OCI No. 0333/64B, 28 May 1964, CIA FOIA Electronic Reading Room (henceforth CIA/FOIA/ERR); Hart-Davis, p.9, & Curtis, pp.290-92.

12 Flintham, p.157.

13 CIA, *Yemen (San'a) April 1973, National Intelligence Survey*, CIA/FOIA/ERR.

14 Green *et al*, p.287, & David Nicolle, 'Arabian Texans: T-6s, Harvards etc. With Middle East Air Arms', *AirEnthusiast Magazine*, No.97, January/February 2002.

15 See *Middle East@War Volume 8: Wings Over Sinai* for details.

16 VÚA-VHA, MNO, 1969, and VÚA-VHA, MNO, 1970, from the Military Historical Archive, Prague, Czech Republic. The Soviets not only offered their arms to the Yemenis at very low prices, or dictated that Yemenis would pay only 30 percent of the real value of equipment they demanded, but also ordered Czechoslovaks to provide at least 40 percent of the requested weapons.

17 Green *et al*, p.287.

18 M. Irra, *Ilyushin Il-10/Avia B-33 Ground Attack Airplane in the Czechoslovak Air Force, 1950-1963, Vol.2* (Nevojice: Jakab, 2009), & CIA, *Yemen (San'a) April 1973, National Intelligence Survey*, CIA/FOIA/ERR.

19 Based on documents VÚA-VHA, MNO, 1969, and VÚA-VHA, MNO, 1970, from the Military Historical Archive, Prague, Czech Republic, as well as Zidek *et al* & Púčik.

Chapter 2

1 *Middle East Record*, Volume 2, 1961.

2 Schmidt, pp.20-22, & Curtis, pp.292-93. According to retired Iraqi Brigadier General Ahmad Sadik (interview, July 2002), Sallal was a graduate of the Iraqi Military Academy that maintained close relations to many Iraqi officers, including several of those who served in top political positions during the 1960s. Sallal thus established a pattern of Iraqi-Yemeni cooperation that was to last well into the 1990s - although at some point Baghdad switched its support to Aden instead.

3 Khalil, pp.19-21.

4 Fawzy, Chapter 6.

5 A.V. interview provided on condition of anonymity. The same source provided the following information about the composition of the UARAF transport fleet at the time: this consisted of Nos 11, 14 and 16 Squadrons, all of which were equipped with Il-14s. The first seven An-12BPs arrived in Egypt in early October 1962, and were initially assigned to No. 14 Squadron. As soon as enough Egyptian pilots and ground crews converted to that type, No. 16 Squadron took over all An-12BPs, exchanging them for its Il-14s; these in turn were taken over by No. 14 Squadron (the aircraft of which were marked with the 'White Pegasus' emblem).

6 Gabr Ali Gabr, interview with Dr David Nicolle, April 2005; this and most subsequent quotations from Gabr Ali Gabr are based on transcription of the same interview.

7 Khalil, pp.22-25.

8 Fikry el-Gindy, interview with Dr David Nicolle, September 1999.

9 Khalil, p.25.

10 Schmidt, pp.24-26, & *al-Ahram*, 12 October 1962.

11 *The Spokesman-Review*, 8 October 1962.

12 Tyhe first plan for establishment of the RSAF was developed by the Foreign Office in 1950, at a time the RAF was convinced that Saudi Arabia was incapable of running even the smallest air force. The British then became involved to avoid the Saudis 'obtaining possibly unsound advice elsewhere'. Similarly, the Americans were originally against sales of combat aircraft to the Saudis. For details, see Hagedorn & Hellström, *Foreign Invaders*, p.65.

13 Stuart-Paul, *The Royal Saudi Air Force*, pp.60-68.

14 Jackson, *F-86 Sabre*, p.94. All the Sabres in question were sent to West Germany for overhauls in 1964, where they also received a complete weapons fit. Eight additional F-86Fs were obtained in 1968, by when all Saudi Sabres were operated by No. 7 Squadron, RSAF, based at Khamis Mushayt.

15 Sandouka and Saima subsequently joined the UARAF and - following a conversion course for MiGs in the Soviet Union - served as fighter pilots with MiG-19-equipped No. 20 Squadron. Another of their colleagues became one of the most successful Egyptian ground controllers, and was famous by his call-sigh, 'Jordan'. For details see Cooper & Salti, *Hawker Hunters at War*, pp.16-17.

16 Khalil, p.26, & Fawzy, Chapter 6.

17 Tamim Fahmi Abdullah, interview with Dr David Nicolle, February 1999; this and all subsequent quotations from Tamim Fahmi Abdullah are based on transcription of the same interview.

18 Khalil, p.28.

19 Ibid, p.29, & Flintham, p.158.

20 Khalil, pp.29-33.

21 *Ibid*., pp.30-33.

22 Curtis, p.293, & Hart-Davis, pp.30-32.

23 Curtis, p.293, Flintham, p.163, & Hart-Davis, pp.30-32.

24 Khalil, pp.35-36, & Nordeen *et al*, pp.189-90.

25 Mohammed Okasha, interviews, October 2008-May 2009 (Okasha was in command of the undesignated MiG-17 squadron in question); 'Letter Dated 14 June 1964 from the Permanent Representative of Saudi Arabia Enclosing a Summary Report', *United Nations Security Council*, 17 June 1963; & Flintham, p.163. US reconnaissance confirmed the presence of Il-28s in Hodeida in June 1963, while missing the presence of MiG-17s; see CIA, 'Airfield Under Construction near al-Hudaydah, Yemen', June.

26 'Requirement No. C-DI4-81,385 (Project No. C 812-64), CIA/FOIA/ERR.

27 Cooper *et al*, *Arab MiGs Vol.4*, pp.26-27, & *Vol.6*, p.14.

28 Flintham, p.163.

29 Keraidy, interview, August 2010.

30 Cooper *et al*, *Arab MiGs Vol.4*, pp.26-27, & Flintham, p.163.

31 VÚA-VHA, MNO, 1969, and VÚA-VHA, MNO, 1970, from the Military Historical Archive, Prague, Czech Republic.

32 *Arab Review*, 1 April 1964, & Ray Deacon (webmaster of the website *radfanhunters.co.uk* - which maintains the heritage of Aden-based Nos 8, 43 and 208 Squadrons, and No. 1417 Flight, RAF), interview, January 2012.

33 Flintham, p.163, Khalil, p.37, & Nordeen *et al*, p.190.

34 Samir Aziz Mikhail, interview with Lon Nordeen, 1997; this and all subsequent quotations from Samir Aziz Mikhail are based on transcription of the same interview.

35 Mohammed Okasha, interviews, October 2008-May 2009, & Ahmed el-Keraidy, interview, August 2010. The Soviets withdrew all of their military advisors from Yemen following the coup of 1962, and none of their advisors were deployed with the Egyptian expeditionary forces inside the country. However, the Soviet air force crews did support the UARAF through the first few months of the Egyptian intervention in Yemen by operating An-12 transports until enough Egyptian crews could be converted to that type. It was within the frame of such operations, sometime in October 1962, that eight Soviet officers were killed when the An-12 carrying them crashed on take-off from Sana'a South.

36 Flintham, pp.159-60, & Hart-Davis, pp.11, 44, 135–37, 138–39, 185, 191, 211, 216, 235, 246–47 & 328 etc.

37 Khalil, p.35.

38 Sadat, *In Search of Identity*, p.144.

39 Keraidy, interview, August 2010. According to Keraidy, Darwish suffered a decompression accident during one of the missions in Il-28s over Yemen, earlier in the war. This caused permanent damage to his ears, but he continued a successful career with the air force well into the 1980s.

40 There is strong evidence that the purpose of what at the time was called a "British sales victory", and "a triumph for UK salesmanship in the face of the stiffest American competition", was actually a deal to enable the RAF to earn money for purchase of 50 General Dynamics F-111K fighter-bombers from the USA. See Anthony Sampson, 'The Arms Bazaar' (German edition), pp.152-58, and 'Saudi Arabian Air Defence System', *AirEnthusiast*, April 1966.

41 Contracted pilots were originally offered £4,000 annually, a considerable sum of money in 1966; later on they got £10,000! For details, see H. Punter, 'An Arabian Magic Carpet', *Air International*, October 1978.

42 H. Punter, 'An Arabian Magic Carpet', *Air International*, October 1978.

43 *Ibid*.

44 Dan Glazebrook, 'The UK's Century-long War against Yemen', *Middleasteye.net*, 27 January 2016, & El-Keraidy, interview, November 2010. However, in an interview with Group 73, in November 2010, Salah Danish (former MiG-19 pilot of No. 20 Squadron, UARAF) confirmed a deployment of MiG-19s to Sana'a Rawdah, but also stated that they flew no combat sorties (this and all subsequent quotations from Danish are based on transcriptions of the same interview). Similarly, Keith McCloskey, researcher working on the history of Airwork Ltd, wrote in response to the author's inquiry: 'As far as is known, no Hunter was ever shot down by a MiG or Sukhoi fighter of any nationality, anywhere in the world … One RSAF Hunter F.Mk 6, the example serialled 60-601, delivered to Saudi Arabia on 2 May 1966, crashed at Taif AB during a low-level flight in 1967. The pilot was Duncan Simpson. As far as the RSAF goes, this was the only Hunter loss I was able to find … Similarly, although there was a number of RAF Hunters lost over the then Protectorate of Aden, some of them caused by small-arms fire, they were not related to the Egyptians or to the Saudis.'

On the contrary, Ray Deacon did express an opinion that involvement of Hunters from No. 6 Squadron RSAF cannot be excluded. He pointed out that the *Military History Encyclopaedia on the Web* - run by J. Rickard and available at *www.historyofwar.org* - contains an entry about a Hunter F.Mk 60 that was lost, "in 1967, either in an accident or to Egyptian action."

Obviously, there is still a story left to be unearthed concerning the two UARAF Il-28s shot down over Yemen in 1966, and a possible Egyptian retaliation in the form of a downed RSAF Hunter flown by a British pilot. The author would greatly appreciate any help in solving this mystery.

45 'Saudi Arabia Set Up 37 British Thunderbird Missiles', *UPI*, 3 October 1966, & 'Egyptians Bombed Towns in Saudi Arabia', *AP*, 8 November 1966.

46 H. Punter, 'An Arabian Magic Carpet', *Air International*, October 1978, & Ray Deacon, *radfanhunters.co.uk*, entry for 20 October 1966.

47 Keraidy, interview, November 2010, & Flintham, pp.163-64.

48 The primary public source used by almost every single publication citing Egyptian deployment of chemical weapons in Yemen remains Dana Shmidt (see p.260 for example). According to him, the UARAF made first use of chemical weapons to attack the village of Kwma, on 8 June 1963, killing at least seven and injuring 25 (p.257). Further attacks followed on 11 December 1966, killing two and injuring 35; on 5 January 1967, killing 140 (p.260); and on 10 May 1967, against Gahar and Gadafar in Wadi Hirran, killing at least 75 (p.264). The gas attacks stopped for three weeks after the June 1967 Arab-Israeli War, but resumed in July, and were flown against "all parts of Yemen" (p.268). Schmidt further reported that the University of Berne made a statement, based on a Red Cross report, that the gas was likely to have been halogenous derivatives - phosgene, mustard gas, lewisite, chloride or cyanogen bromide (p.267). A similar, though less well-known report was subsequently released by Drew Pearson and Jack Anderson, under the title 'Official Report Reveals Arabs Violating Poison Gas Ban; Red Cross confirm Use of Gas in Yemen', via the *Bell-McClure Syndicate*. According to that report, the International Red Cross teams visited el-Ketaf and sent fragments of bombs, soil samples and lung tissue of dead animals to their headquarters in Geneva for examination. Examination resulted in an *unofficial* report that poison gas had been used. This, however, was never confirmed by the Red Cross. For further claims regarding Egyptian deployment of chemical weapons in Yemen, see Dany Shoham, 'The Evolution of Chemical and Biological Weapons in Egypt', *ACPR Policy Paper No.46*, 1998, who in turn is citing the SIPRI report 'The Problem of Chemical and Biological Weapons, Volume 1: the Rise of CB Weapons' (New York: Humanities Press Inc., 1971), pp.86-87, 159-61 & 336-41 - which in turn cited Schmidt as a source. On 17 August 1990, Jack Anderson published the article 'The Growing Chemical Club' in the *Washington Post*, according to which an anonymous Egyptian official confirmed the use of chemical weapons in Yemen. To this day, this remains the only 'positive' reply in this regards from Cairo.

49 Flintham, p.163. According to CIA, *Intelligence Memorandum: The Situation in Yemen and South Yemen and the Soviet Role*, 8 December 1967, Iran also ran a wider programme of providing arms, ammunition and Arabic-speaking instructors from the Imperial Iranian Army, "some of which are believed to have handled advanced weapons in actual combat with Egyptian forces. Considerable equipment was delivered to the Royalists in the fall of 1967, although the Royalists were warned against using it against the evacuating Egyptian forces."

50 Khalil, interview with Lon Nordeen, 1997.

51 Darwish, interview with Dr David Nicolle, September 1999.

Chapter 3

1 Thompson *et al*, p.115.

2 Okasha, interviews, October 2008-May 2009, & Keraidy, interview, August 2010.

3 Keraidy, interview, June 2010. According to Fawzy (Chapter 8), over 100 other aircraft – most of them still crated – were evacuated to Yemen during early June 1967. However, statements about such high numbers of crated aircraft are not supported in 'Document 44', which contains the conclusions from the official Egyptian investigation into reasons for the catastrophic loss during the June 1967 War with Israel..

4 Keraidy, interview, August 2010.

5 'When Friends Fall Out', *Time* magazine, 17 November 1967.

6 Major General Abdullah Saleh, 'The Establishment of Yemeni Air Force' (in Arabic), *26 September News*, January 2010; unless stated otherwise, all this and the following sub-chapters are based on that article.

7 According to the CIA, there was no such unit organisation at that time, but all the aircraft and personnel were organised into one 'Operational Training Unit', and it was only in 1971 that the air force was reorganised into three squadrons; see CIA, *NIS: Yemen (San'a),* April 1973, CIA/FOIA/ERR.

8 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

9 Major General Abdullah Saleh, 'The Establishment of Yemeni Air Force' (in Arabic), *26 September News*, January 2010; 'A Russian Airman Downed in Yemen', *UPI*, 12 December 1967, & 'Red Jets are Used in Yemen', *AP*, 13 December 1967. Several years later, a small monument was established at the site of Zharinov's crash.

10 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008, & CIA, *Intelligence Memorandum: The Situation in Yemen and South Yemen and the Soviet Role*, 8 December 1967, CIA/FOIA/ERR.

11 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

12 'Yemen's Desert Fox', *The New York Times*, 16 January 1969.

13 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

14 M.T.L., interview provided on condition of anonymity, September 2004.

15 The single-seaters in question received export designations F.Mk 52s, and two-seaters T.Mk 54s.

16 H. Punter, 'An Arabian Magic Carpet', *Air International*, October 1978. 'Avipin', also known as Isopropyl nitrate (IPN), is a highly volatile monofuel that burns without oxygen. After the appearance of the unknown aircraft over Khamis Mushayt, during the night of 16-17 September 1967, the British assessed that this was an Egyptian transport used for reconnaissance purposes, which exploited the announced arrival of a RSAF C-130 Hercules to approach Khamis Mushayt 'unobserved'. They arranged for a false flight plan to be filed for another RSAF C-130, and the following night the intruder appeared again. However, the intended interception was not mounted, since after waiting for several hours the Lightning pilot decided to depart for some night flying practice. The aircraft was then midway through refuelling when the Yemeni aircraft arrived. One of No. 6 Squadron's Hunter F.Mk 60s was scrambled instead, but this failed to make contact.

17 The resulting enterprise made Operation Magic Carpet so expensive that the UK never made any profit from what the Ministry of Defence in London had originally envisaged as a simple commercial deal that would fund the acquisition of 50 General Dynamics F-111K fighter-bombers for the RAF (as replacement for the BAC TSR.2, cancelled in 1965). Saudi Arabia thus ended up flying aircraft it could not use (or deploy on its own), in order to enable the British to buy an aircraft they could not afford. London's order for F-111s was cancelled due to the economic crisis that hit the UK in November 1967. For details, see Anthony Sampson, *The Arms Bazaar* (London: Hodder and Stoughton, 1976), pp.152–58.

18 Mike Bennet, 'Chronological Listing of Royal Saudi Air Force Ejections and Losses', *ejection-history.org.uk*.

19 A.A., interview provided on condition of anonymity, October 2013, & *House of Common Debate*, 19 June 1967 (Vol. 748, cc1125-262).

20 'Big Lift from A To B…', *Flight International*, December 1967.

21 Norman Rivett, 'Personal Album Special', *Aeroplane Monthly*, May 1987, & Major General Abdullah Saleh, 'The Establishment of Yemeni Air Force' (in Arabic), *26 September News*, January 2010.

22 *Middle East Record*, 1968, & 'Fighting in November and December; Air Force in Action', *MENA*, 23 December 1968.

23 Norman Rivett, 'Personal Album Special', *Aeroplane Monthly*, May 1987.

Chapter 4

1 VÚA-VHA, MNO, 1969, and VÚA-VHA, MNO, 1970, from the Military Historical Archive, Prague, Czech Republic. As far as is known, the Czechoslovak air force withdrew from service its last 12 MiG-17PFs and two MiG-17Fs in 1968.

2 Keraidy, interview, August 2010, & CIA, *NIS: Yemen (San'a),* April 1973, CIA/FOIA/ERR.

3 CIA, *NIS: Yemen (San'a),* April 1973, CIA/FOIA/ERR & Stafrace, p.63. The SA.316B was originally designed by SNCASE (Sociéte Nationale de Construction Aéronautique du Sud-Est) in 1957. It was designated SE.316B until 1968, when the company was reorganised as Sud-Aviation and its designs began wearing designations starting with prefix 'SA'.

4 *Ibid*. & Flintham, p.184.

5 CIA, *South Yemen-USSR: Outlook for the Relationship*, NIE 36.9/11-84, 5 April 1984, CIA/FOIA/ERR.

6 CIA, *NIS: Yemen (Aden),* July 1973, CIA/FOIA/ERR.

7 'Conflict in the Sands', *UPI*, 28 November 1969 (according to the same report, the RSAF had only eight of its own pilots qualified to fly Sabres as of December 1969, and at least one Pakistani pilot ferried one of the F-86s to Khamis Mushayt, on 30 November 1969); 'South Yemen Claims MiGs Repel Saudi Attack', *The Washington Post*, 27 November 1969; Flintham, p.184; Damien Burke, 'English Electric Lightning History', *thunder-and-lightnings.co.uk*; & Mike Bennet, 'Chronological Listing of Royal Saudi Air Force Ejections and Losses', *ejection-history.org.uk.* There is no evidence for unofficial Cuban claims according to which the Lightning F.Mk 53 lost in May 1970 was shot down by a Cuban-flown MiG-21. Indeed, such a claim is not supported even by sources among retired Cuban MiG pilots interviewed by the author in the process of preparing the book-series *African MiGs*: at the time, there were no MiG-21s anywhere in Yemen. RSAF Lightnings were subsequently involved in two incidents with transports of the Iraqi Air Force (IrAF). In January 1970, two interceptors from No. 6 Squadron forced an IrAF An-12B that was hauling arms for the Republicans to land in Saudi Arabia. Furthermore, according to Brigadier-General Ahmad Sadik (former officer of the IrAF Intelligence Directorate; interview, July 2006), in July 1970 two RSAF Lightnings intercepted another IrAF An-12B underway over the Red Sea, carrying an Iraqi delegation that was to visit Sudan. For unclear reasons, British or Saudi pilots flying them opened fire and shot down the lumbering transport, killing about 30 people on board. To make matters even more mysterious, Baghdad officially explained this as an "accident caused by a technical failure".

8 CIA, *NIS: Yemen (Aden),* July 1973, CIA/FOIA/ERR; Flintham, p.184; Stafrace, p.64.

9 CIA, *NIS: Yemen (Aden)*, July 1973, CIA/FOIA/ERR.

10 *Ibid*. & Major General Abdullah Saleh, 'The Establishment of Yemeni Air Force' (in Arabic), *26 September News*, January 2010.

11 *Ibid*. The Riyan airfield (and then air base) cited in this narrative is not the same as the former RAF Riyan, which was located closer to Mukalla.

12 CIA, *NIS: Yemen (Aden)*, July 1973, CIA/FOIA/ERR; according to the same report, Major Ubayd had no military training, but was assigned to this post because he was a member of the NLF's General Command.

13 A.A., interview provided on condition of anonymity, October 2013; White, p.220; & Dr Geraint Hughes, 'The Secret War in South Yemen, 1972-1975', *DefenceInDepth.co*, 15 April 2015.

14 White, pp.221-25.

15 CIA, *NIS: Yemen (Aden)*, July 1973, CIA/FOIA/ERR.

16 'South Yemeni Air Raids on North Yemen', *UPI*, 30 September 1972; Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008; & Dr David Nicolle's personal notes, based on e-mail exchange with Russian researcher Viktor Kotlobovskiy. The latter contain an anecdote indicating North Yemeni suspicions of Soviet advisors assigned to the YARAF: one of the Soviets who used to work with the Northern air force in 1971 was Viktor Nikolayevich Lopatchenko. Before arriving in Sana'a, this Arabic-speaking flight instructor used to work with the EAF in Egypt and Libya under the pseudonym 'Captain Abdu Kasim ash-Shaybani'. In November 1971, Lopatchenko was redeployed to Aden and, according to Kotlobovskiy – who interviewed him sometime in the 1990s – not only trained PDRYAF pilots to fly MiGs, but also flew several combat sorties against the YAR. Further, according to Kotlobovskiy, the Soviets in the PDRY did not limit their activities to those against North Yemen. Sometime in December 1971, they decided to launch an air strike against Ethiopia, in support of Eritrean separatists. Lacking any better aircraft than short-ranged MiG-17s, they decided to redeploy the aircraft of No. 5 Squadron PDRYAF to Salif Island in the Red Sea, which had an airstrip constructed by the RAF during the Second World War. Soviet ground crews removed all national insignia and disassembled the MiGs, which were then deployed to Salif on board several Soviet transports, by night. Following assembly, all the aircraft were armed, pilots briefed and then the mission flown the next night. Sadly, Lopatchenko did not say what kind of target they hit (apparently with unguided rockets): only that immediately after this mission, all the involved MiG-17s were disassembled and transported back to Aden. According to him, the situation for Soviet advisors in South Yemen subsequently became so dangerous that all the Soviet advisors were ordered to leave - and thus he returned to the USSR via Saudi Arabia and Iran in early 1972. However, as we are to see, there are no indications for a withdrawal of Soviet advisors from the PDRY around that time.

17 'North claims South Yemeni Tanks and Armoured Cars Destroyed', *UPI*, 30 September 1972, & *Fischer Weltalamanach 1969*, (Fischer, 1968; ASIN B003TV17MW), pp.173, 346.

18 According to the CIA, *NIS: Yemen (San'a)*, April 1973, up to 75 percent of North Yemen's population as of 1972-1973 considered themselves as Zaidis.

19 CIA, *NIS: Yemen (Aden),* July 1973, CIA/FOIA/ERR.

20 'War Clouds Darken', *The Washington Post*, 13 October 1972.

21 David R Griffiths, 'Congress Probes Yemeni Arms Policy', *AW&ST*, 26 May 1980.

22 Day, pp.89-93, & CIA, *The Yemens: A Handbook*, NESA 84-10007, April 1984, CIA/FOIA/ERR. Not discussed by the CIA is the fact that, aware of what the Saudis did to idealist President Hamidi, and of Riyadh's interest in maintaining Yemen as a failed state, Saleh took care to comfort his powerful neighbour through launching the so-called Qat agricultural revolution. He influenced local farmers to start planting Qat instead of coffee, wheat and other crops. This not only significantly decreased their income from exports to Saudi Arabia, but also made Yemen depend on imports of wheat largely sponsored by the United Nations. However, as the production of Qat increased, its prices dropped into an abyss, in turn enabling even poor Yemenis to enjoy Qat on a daily basis for the first time in Yemeni history. Furthermore, citing a US Congressional hearing from 1980, Griffiths pointed out that Saleh was aware of Saudi concerns about any possible improvement of Yemeni relations with the USA. When the US Assistant Secretary for Defense in the Defense Department's Officer of International Security Affairs, Rober Murray, visited Sana'a, shortly after Saleh's rise to power, the new Yemeni president observed that if Murray was there to set up a bilateral relationship that might result in the supply of arms and equipment to North Yemen directly, Saudi Arabia would not tolerate such ties. For similar reasons, over the following years Saleh's government developed a soft anti-US sentiment in its foreign relations. One of the results of this was that Sana'a officially began inviting various foreign religious scholars to settle in Abyan – with far-reaching consequences.

23 A.A., interview provided on condition of anonymity, October 2013.

24 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008, & CIA, *NIS: Yemen (Aden),* July 1973, CIA/FOIA/ERR. Hadrami cited the loss of two PDRYAF aircraft in training accidents in the mid-1970s. A MiG-17F crashed on 4 December 1973: pilot Mohammed Ahmed ash-Shuja was killed. An Il-28 crashed on 17 February 1975, killing the crew, including Adeil Hamid Sayed Muhammad Jeklana and two others.

25 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008, & Dr Aleksander Andreevich Raspletin, *History PVO website* (historykpvo.narod2.ru), 2013.

26 Philippe Chetail, '*Ramon Josa quitte la scène du spectacle aérien*', *Aerobuzz.fr*, 24 September 2014.

27 Sadly, no other details became available about South Yemeni participation in the Ogaden War. Available Cuban sources indicate that the Cuban team flew a batch of 12 MiG-21MFs donated to Ethiopia by the USSR, but which the Ethiopians never accepted (the Ethiopian air force preferred the more advanced, if heavier, MiG-21bis). For details about this deployment, see sister-publication Cooper, *Wings over Ogaden*, pp.47-48. All the MiG-17Fs and MiG-15UTIs of the PDRYAF sent to Ethiopia were left there after the end of the Ogaden War. They were never flown again following withdrawal of No. 5 Squadron, but abandoned at Dire Dawa AB.

28 The NDF was formed in 1976 as an umbrella organisation of North Yemeni leftist groups and disaffected nationalists. Its goals were to eliminate Saudi influence in Sana'a, replace North Yemen's tribally based society with an Arab socialist state and unite the Yemens. The NDF leadership was dominated by Marxists and its armed wing included officers and other ranks of the regular PDRY's military.

29 A.A., interview provided on condition of anonymity, October 2013.

30 *Ibid*. & Robert D. Burrowes, *Historical Dictionary of Yemen* (Rowman & Littlefield, 2010), p.XXXII. According to A.A., another 70 Yemenis were undergoing training on F-5s in Saudi Arabia and Jordan in early 1979, while seven were in the USSR. Furthermore, the source in question explained that Saleh was so displeased by the performance of his military, that he decided to recruit the help of the Yemeni Moslem Brotherhood, armed them and facilitated Saudi support for them. The Moslem Brotherhood had secretly existed in Yemen for nearly 100 years, but was chronically weak due to the tribal nature of the locals. The results of Saleh's decision was the rise of local Sunni Islamists, especially in the non-tribal parts of central Yemen. During the 1990s, several leading figures of this movement were appointed by Saleh to top positions within various national security agencies. In order to prevent them from growing too much power, Saleh then 'helped' the Islamists during the creation of the Islamist Islah Party, led by his life-time ally Sheikh Ahmar.

31 'US Plans Arms Shipments to North Yemen', *AW&ST*, May 1979, & Stafrace, p.63. Other US-made equipment delivered to Yemen within this arms deal included 64 M60 tanks, 100 armoured personnel carriers and various anti-tank missiles.

32 CIA, *The Yemens: A Handbook*, NESA 84-10007, April 1984, CIA/FOIA/ERR, Stafrace, p.63, & Dr Aleksander Andreevich Raspletin, *History PVO website* (historykpvo.narod2.ru), 2013.

33 CIA, *Formation of New Brigades in South Yemen*, NPIC/IAR-0129/80, Z-20035/80. The presence of both the AS-9s and Su-22M-3s was confirmed by US intelligence services in early 1982, at Aden AB, which subsequently underwent another expansion and reconstruction. For details, see: CIA, *Late Generation Fitter, Aden International Airfield, South Yemen*, NPIC/PEG (6/82), Z-10865/82, & CIA, *AS-9 Support Equipment, Aden International Airfield, South Yemen*, NPIC/PEG (02/82), Z-10193/82, CIA/FOIA/ERR.

34 According to A.A., the F-5s were dispatched to Yemen in such a rush, that each arrived armed with two AIM-9 Sidewinder missiles. However, these missiles remained their sole armament for several weeks, until the first shipment of 20mm ammunition for their cannons arrived.

35 Zeng, p.331.

36 *Ibid*., p.331. The deployment of the Taiwanese air force in Yemen was run within the frame of Operation Damo by the Military Liaison Office in Saudi Arabia. Commander of the latter (usually wearing the rank of Colonel) was also the head of the Taiwanese detachment in Yemen. The latter had its own commander, usually in the range of a Lieutenant Colonel. The last Taiwanese head of the task force in Yemen was Lieutenant Colonel Jhou Shao-long, appointed to that position in March 1990. 'F-5 Production', *Scramble*, January 1996. The four F-5Bs donated to Saudi Arabia were 72-1344, 72-1347, 72-1348 and 72-1353. The F-5Es included eight aircraft originally manufactured for Ethiopia but then embargoed (serial numbers 75-0604–75-0611) and four newly built aircraft (serial numbers 77-1771, 77-1772, 77-1775 and 77-1776, the last of which was written off on 21 January 1980). Saudi Arabia subsequently donated a number of additional F-5s as attrition replacements, including the F-5B serial number 72-1352. As far as is known, Major General Tang Fei only left in 1991 after the two Yemens united.

37 A.A., interview provided on condition of anonymity, October 2013.

38 *Ibid*. & CIA, *The Yemens: A Handbook*, NESA 84-10007, April 1984, CIA/FOIA/ERR.

39 CIA, *North and South Yemen: Comparative Military Capabilities*, NESA 87-10053, December 1987, CIA/FOIA/ERR, & Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008. According to Hadrami, General Othman was born in 1956 in the Nabuls area and trained in Pakistan and Yugoslavia. He was killed during a training sortie out of Sana'a on 16 December 1985.

40 A.A., interview provided on condition of anonymity, October 2013.

41 CIA, *Military Activity, South Yemen*, NPIC/PEG (04/82), Z-10533/82; *SA-2 Equipment, Taizz Airfield, North Yemen*, NPIC/PEG (01/82), Z-10017/82; *North Yemeni Ground Forces Advance, Rida-Juban Area, North Yemen*, NPIC/IEG (8/82), 12 August 1982, CIA/FOIA/ERR.

42 Raspletin. The SA-3 systems in question arrived in South Yemen in 1986, while the additional SA-2 system and associated missiles followed in 1987.

43 Dr. Aleksander Andreevich Raspletin, *History PVO website* (historykpvo.narod2.ru), 2013, & Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

44 According to A.A., some accusations went as far as to blame Ali Nasser, who was from Abyan, for establishing secret links with Saleh and receiving support from him.

45 Based on reporting by *AFP*, *Reuters* & Flintham, p.185.

46 CIA, *North and South Yemen: Comparative Military Capabilities*, NESA 87-10053, December 1987, CIA/FOIA/ERR.

Chapter 5

1 A.A., interview provided on condition of anonymity, October 2013.

2 There is a significant discrepancy in reported designation of the three South Yemeni units in question. For example, most sources cite the 1st Armoured Brigade as being deployed in the Amran area. However, the few authoritative

sources cite the 1st as deployed north of Sa'ada, the 3rd in the Amran area and the 25th around Dhamar.

3 A.A., interview provided on condition of anonymity, October 2013; 'Yemen's Rival Armies Turn on Each Other', *The Guardian*, 6 May 1994; 'Yemen Brigade Reported Routed', *AP*, 4 May 1994. According to A.A., there was actually a plan along which the two brigades deployed in North Yemen, reinforced by Surayh and Bakil tribes, would have assaulted Sana'a and toppled Saleh. Pending release of official documentation, it remains impossible to confirm or deny such reports.

4 A.A., interview provided on condition of anonymity, October 2013.

5 *Ibid*. & M.T.L., interview provided on condition of anonymity, September 2004.

6 Unless stated otherwise, these and following details are based on reporting by *AFP* and *Reuters*.

7 M.T.L., interview provided on condition of anonymity, September 2004, & Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

8 Interviews with A.A. & M.T.L., & David Warburton, 'The Conventional War in Yemen', *Arab Studies Journal*, Vol. 3, 1995, pp.20-44.

9 *Ibid*. & Brigadier General Ahmad Sadik, interview, July 2006. Further details from 'Aden says its planes attacked Northern airports', *al-Bab*, 5 May 1994; 'North says it shot down five Southern planes', *Reuters,* 5 May 1994; 'South Yemen reports raids on its key installations', *al-Bab*, 5 May 1994; 'Airports, Palace bombed in Yemen', *Reuters*, 6 May 1994. Sadik insisted that the Iraqi pilots in question were either seconded from the Iraqi Air Force, or retired but recalled for an 'exchange tour' in Yemen, which is typical for many allied air forces around the world. According to him, Sana'a paid for their services - but to Baghdad: the pilots in question only received some minor extras.

10 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008. According to Hadrami, this was Abed's fourth combat sortie out of Anad on that day.

11 Rumours circulated on various Yemeni internet forums that Shafiri "landed in some Israeli prison" are wildly exaggerated.

12 'Northern troops reported advancing on Aden', *Reuters*, 7 May 1994; 'Southern Yemen says key Northern Brigade crushed', *Reuters*, 9 May 1994; 'Sana'a says two Southern jets downed in Yemen', Reuters, 10 May 1994; 'Scud Missile kills 23, wounds 30, in Yemeni capital', *Reuters*, 11 May 1994; 'Defence Ministry in Sana'a says final phase in assault on Anad base under way', *SWB*, 12 May 1994; 'Southern aircraft bomb Northern forces east of Aden', *AFP*, 13 May 1994.

13 M.T.L., interview provided on condition of anonymity, September 2004, & Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

14 Conclusions based on various videos available on YouTube.

15 David Warburton, 'The Conventional War in Yemen', *Arab Studies Journal*, Vol. 3, 1995, pp.20-44.

16 'Yemeni Fulcrums', *AirForces Monthly*, November 1994; 'Battle rages for key Yemen base north of Aden', *Reuters*, 17 May 1994; 'Northern military communiqué reports southern attack on Sana'a, on 14 May', *SWB*, 17 May 1994; 'Aden reports Northern offensive in Rahidah-Kirsh area', *SWB*, 18 May 1994; 'GPC official confirms fall of Anad, rejects YSP's peace initiative', *SWB*, 18 May 1994; 'South Yemen planes, guns pound Northerners in base', *Reuters*, 19 May 1994; 'Explosion hits Northern capital as South fights back', *GDN*, 24 May 1994; 'Northern Yemenis arrange for defecting Southerners', *Reuters*, 25 May 1994; 'Military communiqué and other reports from Aden', *SWB*, 26 May 1994; 'North Yemen fires missiles at Aden Airport', *Reuters*, 26 May 1994; 'Aden Defence Ministry condemns North's missile attack', 28 May 1994; & 'Official paper says missile killed 35 in Sana'a', *Reuters*, 28 May 1994.

17 'North Yemenis score rare hit on Aden refinery', *Reuters*, 5 June 1994; 'N Yemen bombs Aden refinery', *IND*, 6 June 1994; 'North gives its casualty figures: 613 killed, 2,030 injured, 2,100 missing, POWs', *AFP*, 6 June 1994; 'Kuwaiti agency reports northern attack on Aden airport, refinery still burning', *AFP*, 9 June 1994.

18 M.T.L., interview provided on condition of anonymity, September 2004. According to same source, Maddah was a graduate of the famous Frunze Military Academy.

19 'AFP reports bombing of Aden military airport', *Reuters*, 13 June 1994; 'Northern aircraft raid Mukalla Airport in the South', *AFP*, 13 June 1994; 'Aden shelling kills at least 47', *Reuters*, 16 June 1994; 'Yemeni air raid death toll rises', *Reuters*, 20 June 1994; 'Yemeni oil station attacked', *AP*, 21 June 1994.

20 'Yemeni Fulcrums', *AirForces Monthly*, November 1994. According to the report in question, another deal for 13 Moldovan MiG-29s was in the process of preparation at the time of the final defeat of South Yemen in early July 1994.

21 M.T.L., interview provided on condition of anonymity, September 2004.

22 Tom Cooper & Adrien Roman, 'Bloody Christmas: Romanian Revolution of 1989' (in German), *Fliegerrevue EXTRA*, Volume 28.

23 M.T.L., interview provided on condition of anonymity, September 2004.

24 According to *AirForces Monthly*, the MiG-29 was shot down on 30 June and the pilot was "Moldovan" - which, as mentioned before, was impossible.

25 For several years after the end of the war, Aden Air Base bore Tabib's name.

26 'S Yemen leader may be abroad', *The Guardian*, 30 June 1994; 'Hunt oil facility bombed in Yemen', *Reuters*, 30 June 1994; 'Southern Yemen insists it still controls Mukalla', *Reuters*, 5 July 1994; 'Iraqi report claims South has recruited Syrian and Bulgarian pilots', *AFP*, 6 July 1994; 'Fall of Aden marks end of Yemeni Civil War', *DTL*, 8 July 1994. A combination of all the published figures for the number of MiG-29s delivered to the PDRYAF in 1994 indicates that South Yemen received at least nine aircraft of the type. A private source that travelled to Yemen in late 1994 (R.C., interview provided on condition of anonymity, July 2001) reported that a total of 12 MiG-29s were delivered, of which only five were captured intact at Aden and Riyan ABs.

27 'Yemeni Fulcrums', *AirForces Monthly*, November 1994, & M.T.L. interview, September 2004.

28 Abu Mubarak Hadrami, 'History of Aviation in Aden and South Arabia' (in Arabic), *Voice of the South News*, 14 August 2008.

29 M.T.L., interview provided on condition of anonymity, September 2004; the same source cited eight helicopter-pilots killed in this war, but without providing any names.

ABOUT THIS BOOK

Since September 1962, hardly a week has passed without a major armed confrontation or an outright war in Yemen. There have been dozens of long-lasting insurgencies, mutinies, rebellions or terrorism-related activities that took place during this period. Despite the duration of all these conflicts, and although they may have caused as many as half a million deaths, the rest of the world has heard very little about them. At best, Yemen is nowadays known as a hotbed of international terrorism, an area that is on the receiving end of frequent US air strikes flown by UAVs, or as "some place" fiercely bombarded by a coalition led by Saudi Arabia.

While some details about British operations in what was Southern Arabia in the 1960s have been published over the years, next to nothing is known about the activities of the local air force. This is even more surprising considering that for nearly two decades there were no less than two fully developed services of that kind - one operated by what was then North Yemen, another by what used to be South Yemen - and that these were also deeply involved in the Cold War.

Using newly released secret intelligence sources, neglected memoirs and popular memory, this book tells the story of military flying in Yemen since 1962. It provides in-depth insights and analysis of campaigns fought by the Egyptian air force in the 1960s, the creation of two Yemeni air forces in the 1970s, and a series of inter-Yemeni wars in the 1980s and 1990s.. Containing over 140 photographs, colour profiles, maps and extensive tables, *Hot Skies over Yemen* is a richly illustrated and unique point of reference about one segment of modern aerial warfare that has remained entirely unknown until today.

TOM COOPER

Tom Cooper is an Austrian aerial warfare analyst and historian. Following a career in a worldwide transportation business – during which he established a network of contacts in the Middle East and Africa – he moved into narrow-focus analysis and writing on small, little-known air forces and conflicts, about which he has collected extensive archives. This has resulted in specialisation in such Middle Eastern air forces as those of Egypt, Iran, Iraq and Syria, plus various African and Asian air forces. As well as authoring and co-authoring more than 30 books - including an in-depth analysis of major Arab air forces at wars with Israel during the period 1955-1973 - and over 1,000 articles, Cooper is a regular correspondent for multiple specialised defence-related publications.

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